INSIDE THIS ISSUE: TECHNOLOGY QUARTERLY

The Economist

Fighting over national security
PAGE 25

Shareholders battle for influence
PAGES 69 AND 69-71

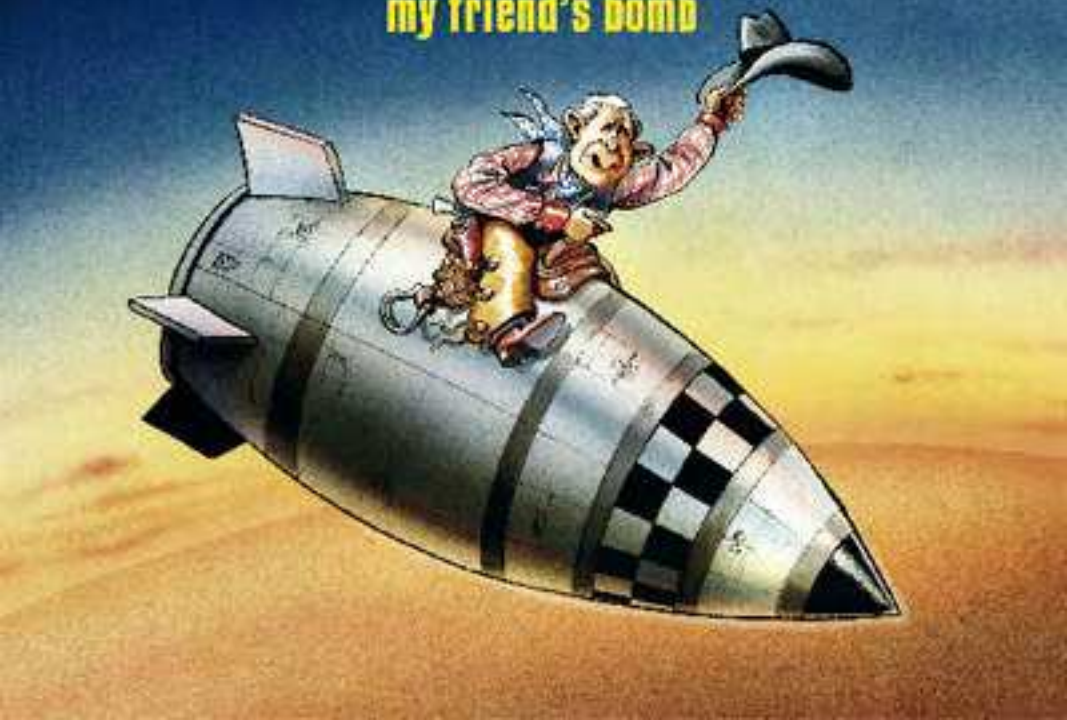
China's inequality worry
PAGES 32 AND 37

Iran's inventive film directors
PAGE 75

MARCH 11TH-17TH 2006 www.economist.com

George W. Bush in Dr Strangedeal

Dr: How I learned to stop worrying and love my friend's bomb



ONLINE FEATURES

Cities Guide Go
Country Briefings Go
Audio interviews Go
Classifieds Go

PRINT EDITION

INSIDE THIS ISSUE: TECHNOLOGY QUARTERLY
The Economist
George W. Bush
Dr Strangedeal
Or: How I learned to stop worrying and love my friend's bomb

Full contents
Enlarge current cover
Past issues/regional covers

GLOBAL AGENDA
POLITICS THIS WEEK
BUSINESS THIS WEEK
OPINION
Leaders
Letters
WORLD
United States
The Americas
Asia
Middle East & Africa
Europe
Britain
Country Briefings
Cities Guide
SURVEYS
BUSINESS
Management Reading
Business Education
Executive Dialogue
FINANCE & ECONOMICS
Economics Focus
Economics A-Z
SCIENCE & TECHNOLOGY
Technology Quarterly
PEOPLE
Obituary
BOOKS & ARTS
Style Guide
MARKETS & DATA
Weekly Indicators
Currencies
Big Mac Index
DIVERSIONS
RESEARCH TOOLS
CLASSIFIEDS
DELIVERY OPTIONS
E-mail Newsletters
Mobile Edition
RSS Feeds

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Print Edition — March 11th 2006

On the cover
Congress should veto George Bush's nuclear agreement with India, for it endangers the whole effort to control nuclear proliferation: leader

Previous print editions
Mar 4th 2006
Feb 25th 2006
Feb 18th 2006
Feb 11th 2006
Feb 4th 2006
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The world this week

Politics this week
Business this week

Leaders

Nuclear proliferation
Dr Strangedeal

Shareholder democracy
Ownership matters

National Health Service
Why hospitals must be allowed to fail

Higher education
Remember Detroit

The internet
Keep it simple

China
How the other 800m live

Letters

On America and India, Holocaust denial, Nelson Mandela, Hugo Chávez, Russian alcoholism, leisure

Special Report

War crimes
Bringing the wicked to the dock

United States

The politics of national security
Macho moms and deadbeat dads

The World Trade Centre
Tower of Babel

The budget
Sound and fury

Race relations in Los Angeles
Puffs of racial steam

The Lost Cherokees
Waiting their turn

Baseball and national pride
The threat from the north

Lexington
The Wilberforce Republican

The Americas

Chile's new president
Bachelet's citizens' democracy

Brazil's presidential election
The mayor or the governor

Mexico, Cuba and the United States
Sheraton's Fawlty Torres

Fissiparous Canada
The lumberjacks are not OK

Argentina
Barring Ibarra

Asia

China
Planning the new socialist countryside

Technology Quarterly

Redesigning the internet
Turning wind power on its side
Hackers go home
Signs of the times
Listening to the internet
Organs to order
Attack of the Eurogoogle
March of the robolawyers
Dancing with Google's spiders
Flight of fancy?
Bright sparks
Television's next big shift
What the nose knows
Wi-Pie in the sky?
Not just a flash in the pan
Reinventing the internet
Pulling the plug on standby power
Power to the people

Business

AT&T and BellSouth
Big is beautiful

Vodafone
Not-so-big is beautiful

Corporate mergers
The gasman cometh

Animal copyright
Put a fiver in his bank

E-commerce
Bricks online

Online music
Your fix or mine?

The car industry
Driving into traffic

Face value
New ways to run a railroad

Special Report

Shareholder democracy
Battling for corporate America

Finance & Economics

Monetary policy in Japan
After the flood

Global markets
Carried away

The New York Stock Exchange

Advertisement

India
Waiting for the backlash

Pakistan and America
Jilted

Thailand
Now what?

Australia
Ten years, and still planning to go on

Timor-Leste
Free but hungry

Middle East & Africa

Nuclear diplomacy and Iran
The world wants Iran to stop

Libya
Change is in the air but happens slowly on the ground

The UN and food
Help the hungry more efficiently

Europe

German reform
The slow walk upstairs

Dutch politics
Left back

Italy's election
Seeking divine help

Spain and the Basques
Cries and whispers

Education in France
Private preferences

Chechnya
A thug in charge

Charlemagne
Energetic debate

Britain

National Health Service
Grappling with deficits

Medical ethics
Embryonic conundrum

Immigration
Pick and mix

Life after Rover
Soft landing at Longbridge

Policing
Copping on

E-government
The world in a website

Tories and cities
Run out of town

Bagehot
Tessa's not (yet) for burning

Articles flagged with this icon are printed only in the British edition of *The Economist*

Listed at last

Genworth
Out and up

Fund management in Europe
Progress, of a sort

American banks
Headwinds

Economics focus
Searching for the invisible man

Marjorie Deane internship

Science & Technology

Nuclear fusion
Once is happenstance...

Human evolution
Sugars and spice

Archaeology
A bronze-age burial

Conservation
Saving the ends of the Earth

Books & Arts

Iranian cinema
How not to be offside

Blogging
Outreach and outrage

New fiction
The doughnut wars

Ancient Greece
Mycenae's miracle

New theatre
Cool cat

Obituary

Hans Singer

Economic and Financial Indicators

Overview

Output, demand and jobs

Prices and wages

Economic forecasts

Money and interest rates

The Economist commodity price index

Stockmarkets

Trade, exchange rates and budgets

Exchange-rate forecasts

Emerging-Market Indicators

Overview

Passport costs

Economy

Financial markets

Advertisement

Classifieds

Jobs
Non Executive Director for DFID's Human Resource Committee
Non Executive Director post for DFID's Human Resource....

Business / Consumer
WSI Internet - Start Your Own Business
Business Opportunity - WSI Internet Start Your Own Busines....

Jobs
Executive Director
The Ross Institute for Advanced Study and Innovation in Education
EXECUTIVE DIRECTOR ....

Jobs
Chief, Evaluations and Performance Audit Service
The World Meteorological Organization (WMO), based in Geneva, ...

Jobs
Training Co-ordinator (Part-time)
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Jobs
Manager - Performance, Strategy & Evaluation
MANAGER PERFORMANCE, STRATEGY & EVALUATION The Global....

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Politics this week

Mar 9th 2006
From The Economist print edition

Iran threatened the United States with “harm and pain” after a meeting of the International Atomic Energy Agency in Vienna decided that Iran's referral to the UN Security Council should go ahead. America and its allies accuse Iran of trying to develop nuclear weapons. The nuclear agency's boss, Mohamed El Baradei, said he was unable to confirm that Iran was not building nuclear weapons. See article

AP

Sectarian killings in **Iraq** continued apace, slowing the formation of a unity government and prompting the American ambassador to warn of civil war. Gunmen dressed as police raided a security firm's office in Baghdad and seized 50 workers. Earlier, 18 bodies had been found strangled or shot in a minibus. Insurgents failed to assassinate the interior minister, Bayan Jaber, a Shia who has been accused of links with death squads.

The **Libyan** government, which has been opening to the West, freed some 130 political prisoners, most of them Islamists. But the country's reform-minded prime minister, Shukri Ghanem, was sacked. See article

Thousands took to the streets of **Sudan's** capital, Khartoum, to back the government in its opposition to the UN taking over peacekeeping from the African Union in Darfur, where the government particularly dislikes the prospect of outside troops.

The head of the UN's World Food Programme warned that at least 20m people face famine in the **Horn of Africa**. Some 3.5m people in north-eastern Kenya have already run out of food and water. See article

Votes were being counted in a presidential election in **Benin**. The constitution rules that those aged over 70 cannot run, so neither the incumbent, President Mathieu Kérékou, nor his main rival did so.

Underground protest

Mexico's 250,000-strong union of miners and metalworkers held a two-day strike in protest at the government's recognition of a dissident leader of the union, which has campaigned against Grupo Mexico, a big mining company that owns a coal mine in the north of the country where 65 workers were killed in a gas explosion last month.

In **Argentina**, the judicial committee of the Buenos Aires city council voted to sack the city's mayor, Aníbal Ibarra. He was accused of complicity in the deaths of 194 people in a fire at a nightclub in December 2004 because of his alleged failure to root out bribery and inefficiency. See article

After talks in London, Britain's Tony Blair and Brazil's president, Luiz Inácio Lula da Silva, called for a summit of world leaders to be held to put more muscle into the **Doha round** of world-trade talks.

Short sessions

China's National People's Congress, its highest legislative body, met in Beijing for its annual ten-day session. The government presented a budget that calls for big increases in military and rural spending. See article

Two bombs in the holy **Indian** city of Varanasi, one of them at a Hindu temple, left at least 14 people dead. But there was no immediate sign of reprisal. See article

AP

Japan turned down an offer from China to develop gas fields jointly in a disputed area of the East China sea. Tension increased further after China's foreign minister called Japan's prime minister, Junichiro Koizumi, “stupid” and “amoral” for visiting the Yasukuni shrine, which honours Japan's war dead.

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Security measures

An important panel in the House of Representatives voted overwhelmingly to block the takeover by DP World of operations in six **American ports**. George Bush, who insists the Dubai-based company is not a threat to security, has vowed to veto any attempt to stop the deal. See article

After twice extending its expiration deadline, Congress renewed the **Patriot Act** and sent it to Mr Bush to sign. Some extra civil-liberties protections were added, but critics maintain the legislation, passed shortly after the September 11th attacks, still gives too much power to the executive branch.

Following a contentious period of selecting a jury, the trial to determine if **Zacarias Moussaoui** should be executed for his role in September 11th got under way in northern Virginia. Mr Moussaoui has pleaded guilty to conspiracy; his defence argues he should be given a life sentence as he did not actually participate in the attacks.

South Dakota's governor signed a controversial measure that bans **abortion** in the state (except where the mother is at risk). The law should eventually force the Supreme Court to give a definitive ruling on abortion. See article

A mixed week for Republicans. In Washington, DC, **Bill Thomas** announced his retirement as chairman of the powerful House ways and means committee. In Texas, **Tom DeLay** won the Republican primary in his congressional district (he faces a tougher challenge in November's mid-term elections). And a former congressman from Southern California, **Randy "Duke" Cunningham**, received a prison sentence of more than eight years for taking bribes from defence contractors.

The youth on the street

Some 100,000 demonstrators protested in **France** against a new temporary youth-employment contract. Critics say it will create job insecurity for young people. France has one of the highest rates of youth unemployment in Europe.

A **Croatian Serb** convicted of war crimes killed himself in jail in The Hague. Milan Babic was briefly president of the Serbs' breakaway state of Krajina. But in The Hague he turned into an important prosecution witness in war-crimes trials of other leading Serbs.

The European Commission called for a stronger common **European Union energy policy**. In a green paper, it suggested a single Europe-wide power grid and a shared approach to energy security. But several EU countries are still pursuing their dreams of national energy champions. See article

AFP

The commission started legal proceedings against **Poland** for opposing a big Italian-German banking merger that involves two Polish banks. The move is seen as a test case for getting the newest EU members to comply with competition rules.

The EU is to lift its ban on **British beef exports**, including of live animals, ten years after it was imposed following the outbreak of mad-cow disease.

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Business this week

Mar 9th 2006
From The Economist print edition

AT&T announced plans for the $67 billion acquisition of **BellSouth**. The deal would create a company with 70m customers in 22 states and give AT&T full control over Cingular Wireless, America's biggest mobile operator. Further consolidation in the industry is expected with a response from Verizon Communications, AT&T's main rival. See article

Vodafone's share price rallied from a two-year low when it confirmed that it was in talks to sell its troubled Japanese unit to **Softbank**, a Japanese internet conglomerate, for an expected price of around £8 billion ($14 billion). Such a deal would signal the end of Vodafone's global strategy and makes the sale of its 45% stake in Verizon Wireless more likely. It would also make possible a dividend payment, which would help to mollify investors dissatisfied with the performance of Arun Sarin, Vodafone's chief executive. See article

Portugal Telecom rejected a *euro*10.7 billion ($12.8 billion) takeover offer by **Sonae**, a Portuguese conglomerate, and said it would return *euro*3 billion to shareholders over the next three years in an effort to fight the bid.

Research In Motion's share price rose sharply after it agreed to pay $612.5m to settle its patent dispute with NTP. The quarrel, which has rumbled on since 2001, almost shut down RIM's **BlackBerry** wireless e-mail service to 3.2m subscribers in the United States; the company now forecasts a drop in subscribers and profit as a result.

Turn about

The board of VNU, a Dutch business-information group that owns the ACNielsen ratings service and Billboard magazine, agreed to be bought by a consortium of private-equity investors for *euro*7.5 billion ($8.9 billion). However, VNU's big institutional investors (some of which stymied the firm's attempt to buy IMS Health last year) stated they would not support the deal.

General Motors announced further cost cuts. The troubled carmaker expects to shave $1.6 billion off its pension liability by freezing its pension scheme for white-collar workers (producing more howls of protest against the drift in corporate America towards defined-contribution pension plans). GM will also sell most of its 20% stake in **Suzuki**, a Japanese carmaker, for $2 billion. See article

Northwest Airlines said that a tentative pay agreement it had reached with pilots would save $358m a year. The carrier, which is seeking to pare its annual labour costs by $1.4 billion as part of a plan to leave bankruptcy protection, averted a damaging pilots' strike by continuing to negotiate past a court-imposed deadline to reach a deal.

The board of BOC, a British company founded in 1886, agreed to an £8.2 billion ($14.4 billion) sweetened takeover offer from German-based **Linde**. The deal creates the world's biggest provider of industrial gases, used in a range of sectors from food processing to chemicals. See article

The fall guy stands up

Andrew Fastow, **Enron's** former chief financial officer, gave testimony as a prosecution witness at the trial of Kenneth Lay and Jeffrey Skilling, who held the reins leading up to the energy-trader's bankruptcy. Mr Fastow, who has struck a plea-bargain with prosecutors, told of secret partnership arrangements that were used, among other things, to give as much “juice” as possible to earnings and to hide losses. Both defendants deny the charges.

America's Justice Department said it was taking charge of a private civil lawsuit against **Mario Gabelli**, which alleges that the fund-manager created sham companies to profit from the lucrative auction of mobile-phone licences in the 1990s and seeks millions of dollars in damages (Mr Gabelli's firm, Gamco Investors, is not a party in the case).

Lloyd's of London named Richard Ward as its new chief executive. Mr Ward, who was the former head of the International Petroleum Exchange (now known as ICE Futures), is taking the helm shortly after the British institution produced a strategic plan to tackle growing competition from offshore insurance markets, such as Bermuda.

Alan Greenspan will receive $8.5m for his memoirs, one of the biggest advances for an author. Expected in the autumn of 2007, journalistic wags anticipated (and hoped) the book would be a more accessible read than Mr Greenspan's often turbid statements on monetary policy while chairman of the Federal Reserve.

Every cloud

The price of **silver** fell a little after hitting a 22-year high on March 3rd. However, speculation continued that the SEC is about to sanction a silver-backed exchange-traded fund from Barclays Global Investors, a response to rising demand for investment products in commodities.

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Nuclear proliferation

Dr Strangedeal

Mar 9th 2006
From The Economist print edition

Congress should veto George Bush's nuclear agreement with India

Get article background

TEN years from now, will George Bush's determination to rewrite nuclear rules for preventing the bomb's spread be judged to have been courageously right or dangerously wrong? In striking his deal with India, allowing it to import nuclear fuel and technology despite its weapons-building, Mr Bush has not for the first time seemed readier to favour a friend than to stick to a principle. He is gambling that the future benefits of accepting a rising India in all but name as a member of the nuclear club will outweigh the shock to the global anti-proliferation regime, already under severe strain from the nuclear dealings of North Korea and Iran. His gamble is a dangerous one. Meanwhile, in his rush to accommodate India, Mr Bush is missing a chance to win wider nuclear restraint in one of the world's tougher neighbourhoods.

New thinking is needed in the anti-proliferation game. North Korea has broken every rule of the Nuclear Non-Proliferation Treaty (NPT) and boasts proudly of its bomb. Iran claims to have no use for one, yet demands the "right" to pursue dangerous nuclear fuel-making technologies—as others may do in future unless creative solutions are found to deflect them—that could be abused for weapons-making. This week America and others were insisting at the International Atomic Energy Agency that Iran not be allowed to bend the anti-nuclear rules out of shape to further what are assumed to be its weapons ambitions (see article). So why does Mr Bush propose doing just that for already nuclear-armed India?

Not just old thinking

You have to deal with the world as it is, comes the reply. India needs to import nuclear fuel and technology, hitherto denied it by a combination of the NPT, the informal rules of the Nuclear Suppliers Group (NSG) and by American law, to support its fast-growing energy needs. And India is not Iran or North Korea. They signed the NPT and cheated. Like Pakistan and Israel, India never joined the treaty and its weapons-making breaks no laws. India is also a responsible democracy; it does not support terrorist groups or threaten to wipe neighbours off the map, as Iran did recently with Israel. Meanwhile, in return for America's bending the rules of nuclear trade, India will put more civilian nuclear reactors under international safeguards, and stiffen its anti-proliferation resolve.

Leave aside whether nuclear power best serves Indians' needs—that is India's choice, made knowing the anti-nuclear rules it was up against. And while India's nukes broke no laws, in practice it got its start in the weapons business, rather as North Korea and Iran did, by misusing technologies and materials provided for civilian purposes. Mr Bush is nonetheless right that no one expects India to give up its weapons now.

But it is one thing to have as broad and close a friendship with a nuclear India as the anti-nuclear rules allow. That is already in both countries' interests. It is quite another to knock aside the rules for India's sake. To be sure, Mr Bush is not proposing that other nuclear dabblers be given a welcome if they are persistent enough to succeed—though that will be the message Iran prefers to hear this week. Rather, he wants democratic, friendly, law-abiding India to be treated as an exception by Congress, which must first amend America's own laws if the deal is to go through, and by others in the NSG.

The problem here is that India could instead prove the exception that fatally weakens the rules. The devil is both in the deal's troubling detail, and in its likely knock-on effects.

India may not have signed the NPT, but America has. In doing so, it promised not to help other countries with their nuclear-weapons tinkering. It also pioneered the reinforcing principle that only countries that have all their nuclear facilities under international safeguards (India doesn't now and won't in future) should benefit from trade in civilian nuclear technology. If countries were going to sign the NPT and renounce nuclear weapons themselves, they

needed assurance that as many others as possible would follow suit. To encourage them, treaty rights—help in enjoying the benefits of civilian nuclear power—were withheld from those that shrugged off or ignored its obligations.

Allowing nuclear trade with India breaks that bargain in a particularly damaging way. The rules had started to bite: India was running short of supplies of uranium for both civilian and military purposes. By allowing it to import nuclear fuel for its civilian reactors, America will be directly easing the bottlenecks in its weapons programme (bizarrely, also agreeing to keep up fuel supplies even if India breaks America's other anti-proliferation laws, as some of its companies have in the past). Worse, India's experimental fast-breeder reactor programme, ideally suited to produce plutonium for warheads though previously claimed to be for civilian purposes, is to be exempted from all safeguards. That will allow India in future to produce scores of weapons a year, not just a handful.

Then add insult to injury. Not only is nuclear-armed India being offered all of the civilian benefits available to countries that have accepted the NPT's anti-nuclear restrictions. It has also accepted few, if any, of the real obligations of the five official nuclear powers recognised by the treaty, America, Russia, China, Britain and France. All at least signed the treaty banning all nuclear tests; India declined. All have ended the production of plutonium and highly enriched uranium for weapons purposes (only China has yet to say so publicly); India flatly refused America's request to do likewise.

A cascade of problems

Rule-bending for India is bound to encourage some other countries to rethink their nuclear options too. But less damage might have been done if the non-proliferation gains had been real ones. In particular, India should have been pressed to stop making fissile material as a condition of any bargain. Pakistan, already signalling interest, could have joined such a moratorium. With China—India's preferred measure of its nuclear prowess—having stopped producing the stuff too, there was a good opportunity to try to spin a wider web of restraint.

Both South Asia and East Asia urgently need to explore such ambitious confidence-building measures to take the sting out of dangerous regional rivalries. This one could have acted as a catalyst in the Middle East too. Israel in the past has had a stronger claim than most for its deterrent, surrounded for much of its short history by large neighbours aiming to drive it in to the sea. Yet its nuclear edge is fast eroding. With an American nudge, shutting down its Dimona reactor (it no longer needs its plutonium) could spark new thinking about a weapons-of-mass-destruction-free Middle East that could someday help finesse the Iran problem too.

Instead of a virtuous anti-nuclear cycle, there is now more likely to be a vicious nuclear one. China can be expected to insist on doing for proliferation-prone Pakistan what America wants to do for India, adding to a regional arms race that has led to a cascade of proliferation in the past. Giving India a freer ride is also likely to embolden Iran and North Korea in their defiance, with potential repercussions for the security of all their neighbours, from Saudi Arabia and Egypt to Japan, South Korea and Taiwan.

No one doubts that the world's richest democracy and its largest one have lots to offer each other as friends and partners. But assisting India's nuclear weapons ambitions ought not to be in Mr Bush's gift. When Congress is asked to change America's anti-proliferation laws, it should say no.

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Shareholder democracy

Ownership matters

Mar 9th 2006
From The Economist print edition

But there are limits to shareholder power

THERE is a whiff of revolution in the air. America's shareholders are growing restless, and the bosses of the companies they own seem increasingly nervous as they peer out from behind their boardroom curtains. On one side are veteran corporate raiders, such as Carl Icahn and Kirk Kerkorian, and the growing army of imitators they have inspired in the hedge-fund industry. On the other, pension-fund activists are threatening one of the fiercest proxy seasons ever, spraying companies with resolutions demanding curbs on executive pay and majority voting in board elections.

Surely there is nothing wrong with the sight of American shareholder democracy in action? Not so fast, say the country's beleaguered managers. The balance between owners and managers that has underpinned America's version of capitalism and made it the best in the world at creating wealth is a delicate one. The system's original genius was to tie the raising of capital to the transfer of ownership rights using sales of equity on public securities markets. Shares gave their buyers more than just a slice of the financial action in the form of dividends. They also carried with them the potential for control of the firm, as countless battles have testified. This mechanism facilitated the rise of corporate capitalism and the astonishing material wealth it has provided in the world's rich countries. You might think that you would fiddle with it at your peril. Those bullying, hectoring shareholders are thus, say some, a dangerous bunch who risk diverting managers from sensible stewardship towards short-term recklessness.

That charge is difficult to sustain, not least because there are obvious reasons for shareholders' discontent. During the 1990s in particular, but continuing a trend that began at least a decade earlier, managers seemed to be getting a better deal for themselves than for their owners. Most obviously this was visible in their rising levels of reward, often with little or no connection to underlying success. Owners have increasingly found themselves asking for whose benefit their hired hands are really running the company. The era of corporate scandals further pricked their concerns. Bosses at, say, Enron or WorldCom seemed blatant in their extraction of rents. Small wonder that owners have been fighting back.

The trouble is that, even on pay, there is little reason to hope that increased shareholder activism will make much difference to how companies and their bosses behave. For all the talk of America as the home of shareholder democracy, its shareholders have remarkably little power (see article). For instance, proxy resolutions about executive pay are “precatory”. In plain English, that means that the board is free to ignore them even if all shareholders vote against the directors. In theory, if shareholders are unhappy about that, they can vote out the board; in practice, that is extremely difficult. Very few board elections are contested, because of a plethora of practical barriers. Further, shareholder votes against a candidate are not counted—meaning that someone could be elected to a board despite 99.9% of shareholders being opposed. Last year lobbying by bosses in effect killed a proposal to increase shareholder power in board elections. This year's spate of proxy resolutions demanding majority voting is evidence of shareholder fury at that, but most of them are precatory, too.

Thinking ahead

A few firms, such as Intel and United Technologies, have voluntarily adopted majority voting. But there is depressingly little cause to think they will start a trend. And, by itself, majority voting is only part of what is needed to restore the balance between owners and managers. Boards of directors could be much tougher with themselves, for instance by scrapping the poison pills that are designed to inhibit the market for corporate control by entrenching ownership (and, typically, managers, too). Similarly, both owners and managers need to think through what is the right way to assess performance and then reward or punish it. Part of the problem is public markets' obsession with quarterly results, which presses managers to pursue meaningless targets rather than think about what is best for the company—one reason why private equity has become more popular in the corporate world. So here's a thought: why not make the whole board stand for re-election under majority voting every two or three years, but leave it to get on with the job in the interstices by scrapping quarterly reporting? Shareholders could challenge incumbents in the meantime only through a hostile takeover bid. That might be just the recalibration American capitalism needs.

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National Health Service

Why hospitals must be allowed to fail

Mar 9th 2006
From The Economist print edition

Tony Blair and his ministers must hold their nerve as reforms begin to bite

Getty Images

Get article background

IN ST PAUL'S CATHEDRAL there is an epitaph to Christopher Wren, the 17th-century architect who rebuilt it after the Great Fire: “Si monumentum requiris, circumspice”. Tony Blair wants the National Health Service to be his St Paul's: those who seek a monument to his premiership should need only to look at Britain's health-care system.

Yet the odds that health-care reform will prove the imposing legacy the prime minister longs for are lengthening by the day. There is an unmistakable whiff of political panic as the NHS lurches from one crisis to another. On March 7th, Sir Nigel Crisp, its chief executive since November 2000, abruptly announced that he was taking early retirement. There is little doubt that Sir Nigel has paid the penalty for a series of financial reverses and managerial mishaps. Yet disruption is the inevitable consequence of reform; and if the government loses its nerve, reform will come to a full stop and Mr Blair will have no monument.

One step back, two steps forward

The government's record on the NHS has been patchy. It spent its first term in office destroying the sensible internal market that the Conservatives had established, believing that health care could be improved just by throwing money at the system, which it did enthusiastically. It has allowed the trade unions to take it to the cleaners in pay deals and adopted a top-down policy of command-and-control targets that could have come straight out of a Soviet rulebook.

Yet in 2002 it realised that the money would be wasted without structural reform, and set about introducing a more ambitious internal market than the one it had junked. Primary-care trusts buy health care from wherever they choose—including an increasing number of private clinics—on behalf of patients. And a new payments system is being introduced to make hospitals more responsive to purchasers' demands.

Even so, with the reforms only half-way there, problems are already emerging. Of these, the most serious and embarrassing is that, despite a funding bonanza that has doubled the NHS budget in the past seven years, many hospitals have gaping holes in their budgets (see page 27). In December, the government revealed that the health service was likely to run a deficit of £620m ($1.1 billion) in the financial year to March 2006. That figure is now expected to reach £800m.

Bad management and poor cost-containment account for a good portion of the deficits. Pay has gone through the roof. Centrally negotiated contracts for hospital consultants, family doctors and nurses have proved much dearer than expected. A leaked Treasury document says that Britain now has the best-paid doctors outside America.

The inefficient configuration of services is another reason why the red ink is appearing. Hospitals are doing things—such as diagnostics, some elective surgery and minor injuries—that might be done better in other places. And in some areas—in a ring around London, for instance—there are too many middling-sized hospitals offering treatment that could be provided more cheaply and safely at fewer, larger and more specialised hospitals.

What's especially worrying for the government is that these difficulties have arisen before market discipline has really had a chance to bite. That will happen in earnest from this April, with the extension of the new payments system that rewards hospitals according to the volume of treatments that they undertake, rather than through “block contracts” linked mainly to previous budgets. The new system now covers £9 billion of work in hospitals; in the financial year starting next month, it will rise to £22 billion.

Similar systems have saved other countries a great deal of money. In Sweden, for instance, a study on health-care

reforms found that the greatest boost to efficiency came from a similar change in the way hospitals are paid. According to the OECD, such per-case payments can save 10% or more compared with previous financing methods.

The gain from pain

But there is nothing painless about the predicted gains in productivity: they will be made as hospitals change their ways because they are threatened with losing custom. Many will succeed in treating patients more efficiently. But some will run into difficulties because their managers can't cope with the transition from a cosy cost-plus world to a more bracing market-based environment. And other hospitals will find they are no longer needed, as the new payments system reveals that services could be provided more efficiently elsewhere.

The government's response to date—sending hurriedly assembled “turn-around” teams into troubled NHS organisations to fix their finances—is not good enough. Instead, it should be planning a regime to make the world of hospital management much more contestable. Those running the show need to know that their jobs can be outsourced to private firms that might do them better.

Ministers also need to grit their teeth and accept that, where the new market in health care reveals that hospitals are providing the wrong thing in the wrong place, some will have to close. There will inevitably be fierce local opposition, and the government will need to try to defuse that by providing more free-standing “A&E lite” clinics to provide the emergency services that people reasonably expect to be available nearby when they need help quickly.

With a shrinking majority and rebellious backbenchers, the government no longer has the appetite for making difficult decisions that it once had. But this year and next—when the reforms properly begin to bite—will be the hardest years for health service reformers. If the government starts bailing out failing hospitals, managers will know that they will never seriously be subjected to market disciplines, and the chances of boosting the health service's efficiency will evaporate. If Mr Blair wants his monument, he will have to hold his nerve through these difficult times, and remember that St Paul's was not built in a day.

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About sponsorship

Higher education

Remember Detroit

Mar 9th 2006
From The Economist print edition

America's universities need to fix themselves while they are still on top

Corbis

THE evidence from the world's campuses and common rooms could not be much clearer. America rules the academic roost. It boasts 17 of the world's top 20 universities, employs 70% of the world's Nobel prize winners and attracts the best and the brightest from just about everywhere.

Are American universities in this position because they are so good, or because their competition is so bad? The evidence, overwhelmingly, is that the latter is the case—especially when you look at Europe. Who for instance could fail to lure talent away from French universities where all the teachers are civil servants? But no American dean should bet on this lasting for ever. Oxford and Cambridge are getting their acts together, Switzerland is attracting some academic stars and China is ploughing money into higher education.

From this perspective, America's universities bear some uncomfortable resemblances to Detroit's big three carmakers in the 1950s: General Motors, Ford and Chrysler also presumed they would always rule the roost. Shorn of international competition, America's universities are run for the convenience of producers rather than their customers. The cost of tuition at public universities is soaring. Students have successfully sued the University of California for raising their fees.

Now the Corporation of Harvard has inadvertently challenged this smugness. Ever since the university's ruling body surrendered to pressure from the faculty and ousted Larry Summers from the presidency of Harvard at the end of last month, American newspapers have buzzed with questions about academia. Are the universities as good as they think they are? Are they upholding the standards of free speech and intellectual vigour? Are they training enough scientists and engineers? Are they encouraging social mobility?

Mr Summers enraged people in all sorts of ways: questioning the rigour of some of the newer “ologies”, getting ensnared in an economist friend's conflict-of-interest case, wondering rather too pointedly why so few women reached the top of the sciences. Both combative and thin-skinned, Mr Summers is not an easy man to defend on every count. But his ouster points to two great weaknesses in American academia.

Political correctness has changed from a subject of widespread mirth to a genuine worry about freedom of speech. The depressing thing about the women-in-science controversy was not the number of academics who disagreed with Mr Summers but the number who thought he had no right to raise the issue. Universities bristle with speech codes and absurd rules: until the Supreme Court intervened this week the army was prevented from recruiting on some campuses.

The other weakness, producer power, gets less attention, but it was at the heart of the war at Harvard. Put simply, many American universities treat their undergraduates shabbily. Harvard's core curriculum has gone unreformed for ages. Star professors fob their students off with graduate students who dole out inflated grades in order to keep them happy.

Mr Summers's solution to this was to try to reinforce the power of the president—the only person who can weigh the interests of the faculty against the interests of students. An even better way would be to abolish tenure, which guarantees academics jobs for life. At least an argument has started—but there is a long way to go. This week, Harvard's Faculty of Arts and Sciences held its first meeting since ridding itself of its enemy; it was described as a “love fest” by one of its leaders.

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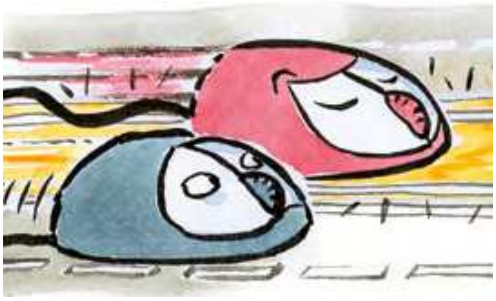
The internet

Keep it simple

Mar 9th 2006
From The Economist print edition

Defenders of "net neutrality" should be careful not to harm the very thing they want to protect



TELECOMS regulation is not generally a subject that sets pulses racing. Yet as America starts to overhaul its outdated telecoms rules, the issue of "net neutrality" has done just that. Unless this principle is defended, say its proponents, the very future of the internet could be in jeopardy.

Net neutrality is the principle that network operators should give equal treatment to all the traffic on their networks. The idea has deep roots: it would seem odd, after all, if telephone companies limited whom you could call, or what you could say to them. In the digital era, net neutrality underpins the innovative culture of the internet. The network blindly delivers data packets regardless of what they contain, allowing for new applications—such as the web, or internet telephony—without requiring permission from network operators.

But now internet firms such as Google and Vonage, plus consumer and internet-advocacy groups, fear that net neutrality could be under threat from America's big telecoms firms, particularly Verizon and AT&T, which this week announced plans to buy BellSouth (see article). Both are building fibre-optic networks over which they plan new services, notably television, to compete with cable operators—themselves moving into telephony. And both firms would like to subsidise the new networks by charging big websites for premium services, such as fast or guaranteed delivery. In effect, they plan "express toll lanes" alongside the internet's existing highways.

That would be bad, say proponents of net neutrality, since some data packets—from those agreeing to pay extra—would be favoured over others. Once one music-download service paid up, its rivals would have to do the same. Internet traffic would migrate to the toll roads, enriching operators but limiting choice and innovation. Only laws forcing operators to respect net neutrality can save the internet, say campaigners.

It sounds worrying. Yet some packets are already favoured, even on today's internet. Businesses routinely pay a premium for fast, secure "tunnels" through the network. Firewalls and virus filters discriminate against suspicious traffic. Big companies already pay extra for hosting and "content delivery" services to make their websites download faster. This has not hampered innovation. And telecoms operators insist that they have no intention of blocking or slowing existing traffic.

An overly prescriptive set of net-neutrality rules could prove counterproductive. For a start, it would mean that all new network construction costs would have to be recouped from consumers alone, which could drive up prices or discourage investment. Ensuring "neutrality" could require regulators to interpose themselves in all kinds of agreements between network operators, content providers and consumers. If a network link is too slow to support a particular service, does that constitute a breach of neutrality? Strict rules could also hinder the development of new services that depend on being able to distinguish between different types of traffic, imposing a "one size fits all" architecture on the internet just as engineers are considering novel ways to improve its underlying design (see survey).

While the two positions might appear to be incompatible, there is in fact a sensible path that should suit everyone. A minimal set of rules to protect net neutrality would still leave room for operators to experiment with new premium services. Even Edward Whitacre, the boss of AT&T, says he is happy to go along with the simple rules proposed by America's telecoms regulator that forbid discrimination against particular websites or services. Blocking or interfering with existing traffic on the internet is unacceptable; but if operators want to build fast lanes alongside it, they should be allowed to.

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China

How the other 800m live

Mar 9th 2006
From The Economist print edition

China's leaders are aware of the problem in its rural areas. They are terrified of the solution

Reuters

A SPECTRE is haunting China—the spectre of rural unrest. The leaders of the Communist Party know it, and fear it as only the inheritors of a revolution born of rural desperation can. This week, as China's supreme legislative body (aka the rubber-stamping National People's Congress) met for its annual ten-day session, addressing the plight of the country poor was at the top of its agenda. But worrying about something and curing it are two very different things.

It is not just that China's farmers have missed out on the double-digit growth that has transformed urban China and turned its richest cities into some of the most dynamic in Asia. The real problem for the leadership is that, in some ways, the lot of the rural poor has got worse. The old communist system offered a life of terrible drabness, but at least it guaranteed certain basics, including free or nearly free health care and education. As China has become more of a market economy, those support systems have largely collapsed.

At the same time, many farmers have lost their livelihoods. The rapid growth of the cities has resulted in their land being seized for development with little or no compensation. Many of the most violent disturbances in recent months have come not from laid-off factory workers, as in the past, but from farmers protesting about these depredations. Communism may be nearly dead in all but name in China, but it survives in the form of one last taboo: the fact that the right of individuals to own agricultural land is tenuous at best. And the local governments that control most of that land do not administer it well. Perennially strapped for cash, because so much of it is consumed in the long bureaucratic trickle-down from the central government to the counties, they are more or less forced to squeeze farmers as hard as they can.

Beyond recognising the problem (China's prime minister, Wen Jiabao, called it a “deep-seated conflict” that “cannot be ignored”), this week's congress approved a 15% increase in the money earmarked for agricultural development, rural services and the like. But even though the amount to be spent has now risen to 340 billion yuan ($42 billion), or 8.9% of the entire budget, China's vastness makes it trivial. Some 800m people still live in the countryside, so the new spending amounts to less than an additional $7 a year each.

What more could the central government do? Most obviously, it could introduce a proper system of land rights. If that remains an ideological bridge too far, for the time being at least, it could at least fund its provinces adequately, which would mean that the poorer, more rural ones could afford to treat farmers better. That would involve inter-province transfers at a much higher rate than now.

Finally, it could do a lot more to encourage efficient government by provincial and local governments. A big part of the problem is that these lower tiers of government are run incompetently. The reason is hardly a mystery. With a press that is muzzled (and, if anything, getting tamer, thanks to a media crackdown directed from the very top), officials are in no sense accountable to the people whose lives they control.

The remedy that dares not speak its name

How, though, to make officials accountable? China does hold some highly constrained elections for village councils. For many years, it has talked of extending the election system upwards to townships, to counties and perhaps higher. There have even been some electoral experiments at township level. For the present, however, the Communist Party, intent on retaining its monopoly of political power, will try to spend and manage its way out of trouble. History suggests that it will fail. The spectre in China's countryside will not be laid to rest until Chinese leaders accept the need for democracy.

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On America and India, Holocaust denial, Nelson Mandela, Hugo Chávez, Russian alcoholism, leisure

Mar 9th 2006
From The Economist print edition

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India rising

SIR – The advice you gave to George Bush on his departure for India stuck with the belief that the failed Nuclear Non-Proliferation Treaty is the best way to curb the spread of nuclear weapons ("A passage to India", February 25th). A quick review of the treaty's history shows that the established nuclear powers either actively proliferated nuclear technology (China and the Soviet Union), or ignored such activity in case it ran against other pressing matters (America's relationship with Pakistan). We should also note that being a signatory to the treaty did not prevent North Korea from developing a sophisticated and extensive nuclear programme. Moreover, India has adopted two policies that none of the five established nuclear powers follow: no first use of nuclear weapons, and no weapons to be used against a non-nuclear nation. Can we expect the established nuclear powers to follow Delhi's example?

Kunal Bhaumik
Mount Prospect, Illinois

SIR – I read your imaginatively titled leader and it left me cold. I am not particularly nationalistic, but your remarkably condescending tone, the depressing eagerness to merely operate as honorary advisers to the United States, and the underlying naive and historically absurd belief that nuclear (or any other military) technology is somehow safer in the hands of an American than an Indian makes me wonder why we in India should give a toss about views that don't take account of anyone east of America's eastern seaboard. The world is changing. And it is surprising that a paper as astute as yours has either not grasped this or just cannot bring itself to accept it.

F. D. Sorabjee
Mumbai

SIR – While Mr Bush may well benefit, as you suggest, from reading E.M. Forster, it is pertinent to remember that Dr Aziz, the main Indian character in "A Passage to India", denied the possibility of friendship between unequal protagonists; only a relationship of patronage and supplication.

Supriya Guha
Basel, Switzerland

SIR – You make the case that Pakistan is of much greater strategic significance to America than India based largely on the former's help in fighting al-Qaeda and the Taliban, and seem to be convinced (Mr Bush's spin doctors will be happy to hear) that the war on terror is still America's biggest challenge. If you had considered other strategic issues, you would see that America and India are more natural allies than America and Pakistan.

Madhuri Pai
Amstelveen, The Netherlands

SIR – Many Indians will take offence at the derogatory reference you made to our writers in general, and Arundhati Roy in particular, as "the chattering classes" and at your statement that "when celebrated novelists worry that a country is melting into the darkness, its prospects are probably bright" ("The great Indian hope trick", February 25th). Indian democracy thrives on debate and dialogue with its writers and intellectuals, which is probably why an illiterate rickshaw-puller on the street is better informed and has far greater critical thinking skills than the "educated" average American.

Sudha Rao
Atlanta

Books matter

SIR – You take an altogether too academic view of David Irving's preposterous twisting of history ("Denying the Holocaust", February 25th). The man is not arguing an obscure point of ancient history. Survivors and direct descendants of the Holocaust are still alive today, yet one only has to look around to see that anti-Semitism is alive and well in Europe and elsewhere and that people like Mr Irving only fan the flames. In many countries there are criminal laws against hate propaganda, which is what Mr Irving is: a criminal, not a discredited historian.

Albert Jacobs
Calgary, Canada

Claiming a King

SIR – It is ironic that you should call Nelson Mandela a "follower" of Martin Luther King ("Freedom man", February 18th). In 1961, Mr Mandela antagonised Chief Albert Luthuli, leader of the African National Congress, who was a genuine strategic pacifist and contemporary of Reverend King. It was Mr Mandela who initiated *Umkhonto we Sizwe* ("Spear of the Nation", the ANC's armed movement) and who, on the eve of Chief Luthuli's return from winning the Nobel peace prize, announced a bombing campaign. Mr Mandela made a political statement that equated Luthuli's militant non-violent methods with "submittal" and capitulated to the logic of violence as a means to an end, for right or wrong.

Reverend Scott Couper
Red Hill, South Africa

Poverty theory

SIR – You touched upon the problems that Hugo Chávez's administration faces in its quest to eliminate poverty by 2021 ("Mission impossible", February 18th). But your analysis played down the dreadful record of Mr Chávez's predecessors. Between 1970 and 1998, income per head in Venezuela fell by 35%, one of the world's sharpest declines. At least the Chávez government is addressing the issue of poverty and is reversing the trend of growing impoverishment. Moreover, your claim that the government's record on alleviating poverty during its first five years was "disastrous" fails to acknowledge the economic damage that was caused by the opposition's destabilising mobilisation—financed by the United States—against the democratically elected Chávez government. These activities led to losses in oil exports of around $14 billion, and an overall decline in GDP of -8.9% in 2003 and -7.7% in 2004. There is a serious debate to be had on the challenges faced by Latin American countries in reducing poverty. The Venezuelan experience provides us with important lessons.

Julia Buxton
Department of Peace Studies
University of Bradford
Bradford, West Yorkshire

Where's the vodka?

SIR – I was surprised that your report on the Russian winter did not mention the system of "communal accommodation" ("A winter's tale", February 18th). These buildings, private or state, contain single rooms with shared bathrooms and kitchens, and the rent is low enough for almost anyone to afford. Moreover, in a society where much of the population received the deeds to privatised flats for virtually nothing, a more pressing measure of homelessness can be attributed to a factor which was also striking in its omission from your report: alcoholism. This certainly accounts for the comatose man currently lying outside my door.

Graham Fraser
Stavropol, Russia

Disparate earnings

SIR – As a single working mother of two I was elated to read that I have more leisure time than ever before ("The land of leisure", February 4th). Unfortunately, I didn't have a chance to finish the article as I fell asleep on the commuter train while reading. However, I did find the time to write to you during my half-hour lunch break.

Nicoletta Barolini
Hastings-on-Hudson, New York

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War crimes

Bringing the wicked to the dock

Mar 9th 2006 | FREETOWN
From The Economist print edition

But does an international search for justice hurt or help the pursuit of peace?

Reuters

Get article background

HITHERTO, the world's worst tyrants have usually managed to avoid being brought to court for their crimes. Some, of course, were killed. Hitler took his own life. But Stalin and Mao died in their beds. Pol Pot, responsible for the slaughter of 2m Cambodians in the 1970s, lived on in Cambodia until his death in 1998. Idi Amin, Uganda's brutal dictator, saw out his days in comfortable exile in Saudi Arabia; Ethiopia's Mengistu Haile Mariam continues to live in Zimbabwe. The list goes on. But with the spread of international justice over the past decade, the noose is tightening. It is now accepted that there can be no immunity for the worst violations of human rights, not even for heads of state.

Serbia's president, Slobodan Milosevic, was indicted for war crimes in 1999 and is likely to be sentenced to life imprisonment when his trial ends later this year. After ten years on the run, Ratko Mladic, the Bosnian Serb army chief held responsible for the Srebrenica massacre, is expected to be arrested any day. In Chile, Augusto Pinochet is finally facing a real possibility of trial 17 years after the end of his dictatorship. Hissène Habré, a ruthless ex-president of Chad, exiled in Senegal for the past 16 years, could soon be extradited to Brussels to face trial for crimes against humanity under Belgium's “universal jurisdiction” law. Polish prosecutors are preparing to bring charges against Wojciech Jaruzelski, their last communist leader. And Saddam Hussein, Iraq's former dictator, faces near-certain execution at the end of his trial before a special tribunal in Baghdad.

Debate has long raged about the best way to deal with gross violations of human rights. Is it more important to punish the perpetrators or to bring an end to the atrocities? Can one, in other words, secure both justice and peace, or are the two naturally antagonistic?

In the 1980s the concept of “truth and reconciliation” began to be the rage, and justice was relegated to the back burner. Truth-telling, perhaps encouraged by amnesties, appeared a good way of revealing the previously suppressed stories of the victims and (much less often) the perpetrators of the covert state-sponsored violence (death squads, “disappearances” and such like) in Latin America. Indeed, the first truth and reconciliation commission was set up not in South Africa, as many still believe, but in Chile, in 1990. Others followed in quick succession in El Salvador, Chad, Haiti, South Africa (1995), Ecuador, Nigeria, Peru, Sierra Leone, South Korea, Uruguay, Timor-Leste, Ghana, Panama, Congo, Liberia and Morocco, the first in the Arab world. Algeria, Afghanistan and Burundi are now considering following suit.

But for many, the idea that genocide, ethnic cleansing, torture and other such horrors should go unpunished became increasingly troubling. Under the principle of national sovereignty, nation states were supposed to have responsibility for enforcing their own criminal justice. But all too often they had shown themselves unwilling or

incapable of prosecuting the worst culprits, either because those responsible were still in power, or because they had taken refuge in other countries and were now out of reach. Hence the turn to international justice.

In 1993, the UN's International Criminal Tribunal for ex-Yugoslavia (ICTY) in The Hague became the first international war-crimes tribunal to be set up since the Nuremberg and Tokyo trials after the second world war. It was followed a year later by the UN tribunal for Rwanda, based in Arusha, Tanzania. Like their post-war forebears, the two courts operate exclusively under international law and are staffed by foreign judges. Since then, five other war-crimes tribunals, all with more or less international input, have been—or are being—set up to deal with atrocities in Sierra Leone, Cambodia, Timor-Leste, Iraq and Afghanistan. Lebanon has now asked the UN for help in setting up a “tribunal of international character” to try the assassins of Rafik Hariri, the former Lebanese prime minister who was killed a year ago.

What man can do to man

The Special Court for Sierra Leone, set up jointly by the UN and the Sierra Leonean government in 2002, was the world's first “hybrid” court. Financed by voluntary contributions from UN members, it operates under international law but with a mixture of local and international judges. Based in Freetown, Sierra Leone's capital, it was also the first modern war-crimes tribunal to be based “in theatre” (ie, in the country where the crimes were committed). Desmond de Silva, the court's chief prosecutor, recounts his first visit to an amputee camp in the town four years ago: “I saw a little girl with no arms saying to her mother: ‘Mummy, when will my arms grow again?’ Nearby was a baby suckling at his mother's breast: neither had any arms. These were sights that said to me: do something. This is evil beyond belief.”

Most conflicts, especially third-world civil ones, are marked by atrocities. But the wanton cruelty of Sierra Leone's 11-year bloodbath was particularly barbaric. Although hacking off limbs became the special trademark of the Revolutionary United Front (RUF), the main rebel group, all sides were guilty. Child soldiers, some not yet in their teens, would rip open pregnant women's stomachs after taking bets on the sex of the fetus. Women's vaginas were sewn up with fishing line. Mouths were clamped shut with padlocks.

Reuters

Saddam accounting for a life of crime

Children were forced to batter their parents to death and then eat their brains. One man was skinned alive before having his flesh picked off and eaten. Another had his heart torn out and stuffed into the mouth of his 87-year-old mother. Thousands were burned alive in their homes. In all, some 50,000-200,000 people were killed (there is no accurate count) and three-quarters of the country's 6m inhabitants were forced to flee their homes. Should such crimes really be forgiven and forgotten?

Charles Taylor, Liberia's ex-president and a notorious warlord, is regarded as one of the greatest villains of the piece. Accused of arming the RUF rebels in exchange for “blood” diamonds, he was indicted three years ago by Sierra Leone's court, but managed to flee into exile in Nigeria after the collapse of his own regime a few months later. Since then, he has been living undisturbed in a seaside villa, courtesy of President Olusegun Obasanjo. The Nigerian leader granted him asylum as part of a peace deal brokered by Nigeria, Britain and the United States. But prosecutors claim that Mr Taylor has broken the conditions of that deal by continuing to meddle in politics, in Liberia and wider afield. Both America's Congress and the European Parliament have demanded his transfer to the Special Court.

But Mr Obasanjo has said he will not hand Mr Taylor over unless requested to do so by a democratically elected Liberian government. In November, Ellen Johnson-Sirleaf was elected Liberia's new president. She may not yet have made the request; in any case, Mr Obasanjo has made no move. African leaders tend to watch each other's backs for fear that it could be their own turn next. But the pressure is building up. In November, the UN Security Council told its peacekeepers in Liberia to arrest and transfer Mr Taylor to the Special Court if he sets foot in the country. And the United States, hitherto reluctant to upset a valuable ally, has begun to speak out. “We think Obasanjo has an international responsibility and we fully expect him to carry it out,” Condoleezza Rice, the secretary of state, recently told reporters.

If the Special Court does get Mr Taylor, it would be a tremendous coup both for it and for international justice. Mandated to try only “those with the greatest responsibility” for the atrocities, the court has indicted just 13 people (compared with the 162 indicted by the ICTY). The trials of nine of them—three from each of the two main rebel groups and three from the pro-government Civil Defence Force (CDF), in a demonstration of even-handedness—are already well under way. But the four chief culprits are either still at large, like Mr Taylor, or dead, like Foday Sankoh, dreaded leader of the RUF rebels. Their absence has led some critics to question the continued existence of a tribunal which many Sierra Leoneans see as irrelevant to their lives.

The court's decision to try Chief Samuel Hinga Norman, the former CDF leader, has provoked particular anger. Many Sierra Leoneans regard the former government minister, who helped oust a savage rebel junta in 1998, as a national hero. “Surely there has to be a difference between a group of thugs and killers who go round butchering people mindlessly, for no particular reason, and people trying to defend their lives, their homes and their children,” protested Peter Penfold, who was British high commissioner to Sierra Leone in 1997-2000. Mr Norman should never have been indicted, Mr Penfold told the court last month. To such objections, which recur whenever an admired national leader is prosecuted, Mr de Silva is wont to reply: “You can fight on the same side as the angels and nevertheless commit crimes against humanity.” Hence, again, the need for international courts.

Sierra Leone's court is in many ways regarded as a model, with its two-to-one mix of foreign and local judges, ambitious “outreach” (public relations) and victim-protection programmes, tight timetable—it expects to complete its work in under five years as opposed to the Yugoslav tribunal's 17 years—and relatively low budget, less than $30m a year, a quarter of the ICTY's. Admittedly, the competition is not exactly fierce.

The Yugoslav and Rwandan tribunals, while doing good work, are regarded as slow, costly and remote, while the special tribunals in Cambodia, with its majority of local judges, and in Iraq, where Mr Hussein's trial before an all-Iraqi bench keeps threatening to collapse in chaos, are regarded by many as counter-examples, lacking both impartiality and competence. With results so mixed, it is perhaps not surprising that people have begun questioning the need to finance such tribunals.

The court they love to hate

The International Criminal Court (ICC) is the world's first permanent war-crimes tribunal. It is also the first not to have any direct UN involvement and has faced strong opposition from America. Set up in The Hague in 2002, alongside the ICTY and the UN's International Court of Justice (the much older body which rules on disputes between states), it is designed to provide a fairer, cheaper, and more effective way of dealing with the most serious violations of international humanitarian law.

Last October, it issued its first indictments—against Joseph Kony and four members of his savage Lord's Resistance Army in northern Uganda. More indictments are expected soon relating to the slaughter in Congo, where war has claimed 4m lives since 1998. The court has also been mandated by the Security Council to investigate the current horrors in Darfur, in western Sudan, and continues to keep watch on developments in five other violence-racked countries, including Côte d'Ivoire and the Central African Republic.

Yet the ICC's reach is limited. Under its statutes, it cannot bring a prosecution unless the accused's country of origin is “genuinely unable or unwilling” to do so. This is a potential minefield: Sudan, for example, insists it is perfectly capable and willing to try those responsible for Darfur and is refusing to co-operate with the court. It may not prosecute crimes committed before its inception in 2002. And it has jurisdiction only over nationals of countries which have ratified its statutes—100 have done so to date—or over those whose crimes were committed in a country which has. The exception to this rule is if the Security Council refers the matter to the ICC, as in the case of Sudan, a non-member. The ICC is further hampered by the refusal of many of the world's worst human-rights violators to sign up to it. Zimbabwe, Cuba, Uzbekistan, North Korea, Syria, Belarus and Saudi Arabia are all non-members. So are the United States, China and Russia, all three veto-wielding permanent members of the Security Council and thus able to block any Security Council referrals.

Imperfect justice

The purpose and value of the ICC and the other ad hoc war-crimes tribunals are now, in their turn, coming under scrutiny. Critics complain that they are selective and politicised, deliver only partial justice and perpetuate the bitterness, thus preventing social and ethnic reconstruction. All too often, suggests Dominic McGoldrick, professor of public international law at Liverpool University in Britain, they are seen as an attempt by the West to impose its own concept of justice and morality on the third world.

AFP

Forgiveness in the offing, with the archbishop's blessing

Others, however, argue that ending impunity is vital, not only to reduce the victims' anger and resentment, which might otherwise fuel a never-ending cycle of reprisals and counter-reprisals, but also to deter further atrocities. Without justice, says Paul van Zyl of the New York-based International Centre for Transitional Justice, you may be able to bring a temporary stop to the killing, but there can be no sustainable peace.

Does deterrence work? It is easy to point to the apparent failures. Despite Nuremberg, genocide has continued. The creation of the ICTY failed to prevent the massacres in Srebrenica and Kosovo. The indictment of Mr Kony and his henchmen has not stopped the Ugandan killings. And since the referral of Darfur to the ICC, the violence there has got even worse. But to be effective, deterrence has to be credible. It works only when the potential culprits have a reasonable expectation of being apprehended and punished. It is too early to judge what effect the ICC and the other tribunals will have, says Mr van Zyl, but he adds that there is no doubt “that there is a growing trend in the world toward justice for the top dogs.” He believes Mr Taylor's capture would send a very strong signal to other potential tyrants.

But what about the lower-level perpetrators—the middle-ranking officers who simply follow orders out of fear for their own lives, or the child soldiers, dragged from their homes, brutalised and forced to commit atrocities often under the influence of drugs or alcohol? Should they, too, be held accountable? Here some kind of truth-telling mechanism, backed up by traditional methods of mediation and reconciliation, might be appropriate, argues Kenneth Roth, head of Human Rights Watch, another New York-based lobby. Aimed only at the worst culprits, international justice is at best a blunt instrument. But he is adamant that blanket amnesties are generally counter-productive, except (a big exception) when used as a temporary expedient to bring warring parties to the negotiating table, with the possibility of being “undone” once peace is restored.

In Sierra Leone, Mr Roth points out, the amnesty negotiated as part of the 1999 Lomé peace agreement with the rebels did not prevent the resumption of atrocities a few months later and was therefore annulled. In war-torn northern Uganda, a five-year-old government amnesty, while successful in bringing thousands of middle- and low-ranking rebels in from the bush, has failed to get Mr Kony and his pals to lay down their arms.

Prosecution is by no means necessarily an impediment to peace, Mr Roth insists; the absence of any amnesty provision in the Dayton peace agreement on Bosnia, for example, did not stop Mr Milosevic from signing up to it (because he never dreamt that he, himself, would be prosecuted). Nor did it prevent Afghanistan's warring parties from reaching a peace agreement in Bonn. Furthermore, he says, the amnesties that have been introduced in the past are beginning to be unpicked in the courts, as in Chile in 2003, or annulled outright, as in Argentina the same year. It is now generally accepted that, under international law, amnesties can never apply to gross violations of humanitarian law.

Truth, reconciliation and punishment

Even South Africa's lauded truth and reconciliation process, presided over by Archbishop Desmond Tutu, provided no automatic amnesty. Under the slogan “revealing is healing”, perpetrators were invited to confess to crimes committed under the three decades of apartheid, and apply for an amnesty. But if their misdeeds were deemed too heinous, amnesty could be denied. More than 7,000 applications were accepted, but 5,400 were turned down. In addition, those who refused to confess remained liable to prosecution. For a long time, it looked as if no charges would ever be brought. But now South Africa has announced that it is ready to prosecute five people (no names yet given), with 15 more likely to follow.

Reconciliation and punitive justice are both necessary in the view of Messrs Roth and van Zyl. Far from being antagonistic, the two approaches complement one another. Much depends on local circumstances. Sometimes, as

in South Africa, it is better to start with truth and reconciliation, and prosecute later. At other times, as in Iraq, prosecution comes first, and truth and reconciliation may follow when or if the violence ends. Sierra Leone is the only country that has set up a truth and reconciliation commission and a war-crimes court at the same time. Locals grumble, but the wounded little country's bold experiment could set a trend.

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The politics of national security

Macho moms and deadbeat dads

Mar 9th 2006 | WASHINGTON, DC
From The Economist print edition

Eyevine

The Democrats are finally invading the Republicans' national-security turf

“PRESIDENT BUSH wants to sell [six American ports] to the United Arab Emirates—a country that had diplomatic ties with the Taliban,” says Harold Ford, a bright young Democratic congressman from Tennessee. In a television ad promoting his bid for a Senate seat, he says that, unlike George Bush, he believes that “we shouldn't outsource our national security to anyone.”

At last, the Democrats have found a national-security issue they can agree to sound tough on. DP World, a firm owned by the Dubai government, is buying P&O, a British firm that operates six American ports. The public are outraged. Never mind that the UAE is an American ally, or that port security will remain in federal hands, or that a port-management firm has a financial interest in not blowing up the ports it manages. Some two-thirds of Americans oppose the deal.

For the Democrats, this is a great opportunity. For years, they have enjoyed a consistent advantage over Republicans on “mommy” issues, such as education and health care. But Republicans have trounced them on “daddy” issues, such as killing terrorists and defending the homeland. The Democrats have lost a lot of elections because they are easy to caricature as the party that thinks “there are no enemies, just friends whose grievances we haven't yet accommodated,” as Mark Steyn, a conservative columnist, once put it.

To turn this around, the Democrats need to sound both resolute and united. And the fortuitous thing about the Dubai ports deal is that it unites disparate strands of Democratic thought. Opposing the deal is not just about protecting American ports from Islamist terrorists. It also appeals to the party's protectionist wing—hence Mr Ford's use of that dog-whistle word “outsource”. And it appeals to those who see the Bush administration as a conspiracy to benefit rapacious corporations.

Democratic blogs are going wild about the fact that John Snow, Mr Bush's treasury secretary and also the chairman of the committee that approved the Dubai deal, used to be head of CSX, an American firm that sold its port operations to DP World in 2004. That was after Mr Snow had left CSX, and no one has managed to explain how he might have profited from approving the Dubai deal, but it sounds fishy, at least to those who have written off the Bush team as a bunch of crooks.

There are three further reasons why Democrats have seized on the ports issue. It gives them a soundbite—“Arab hands off our ports”—that even the dimmest voter can understand. (Such soundbites have traditionally been a Republican strong point.) It allows them to pander to racist voters with plausible deniability. (Again, this is usually Republican turf.) And it looks like an opportunity to defeat the hated Mr Bush, not least because Republicans are

nearly as suspicious of the deal as Democrats are. On March 8th, a House panel dominated by Republicans voted 62-2 to block the DP World deal—even though Mr Bush has promised to veto any such attempt.

All this hoohah comes at a time when Mr Bush's national-security credentials are already looking tarnished. Terrorists continue to blow up mosques in Iraq (and a Hindu temple in India). The administration does not know how to stop Iran from building a nuclear bomb (see article). Hamas's electoral victory casts doubt on the notion that spreading democracy in the Middle East will curb terrorism. Could it be that the Daddy party is not, in fact, keeping Americans safe? Will Americans turn to Mommy instead?

Recent polls suggest the Republicans are indeed losing their lead on national security. A recent Gallup poll found 40% of respondents thought the Democrats would do a better job of protecting America against terrorism and military threats, while 45% preferred the Republicans. So the GOP's advantage has not disappeared, but it is half what it was in September and only a third as large as it was in 2003, when Republicans led Democrats by 51% to 36% on this issue (see chart).

If this trend were to continue, the Democrats could reasonably expect to start winning elections. But Michael O'Hanlon, a security analyst at the Brookings Institution, warns against complacency. “Mr Bush has taken a short-term hit. But it is wishful thinking for Democrats to suppose that one month of bad news has wiped out 30 years of Republican advantage on national security,” he says.

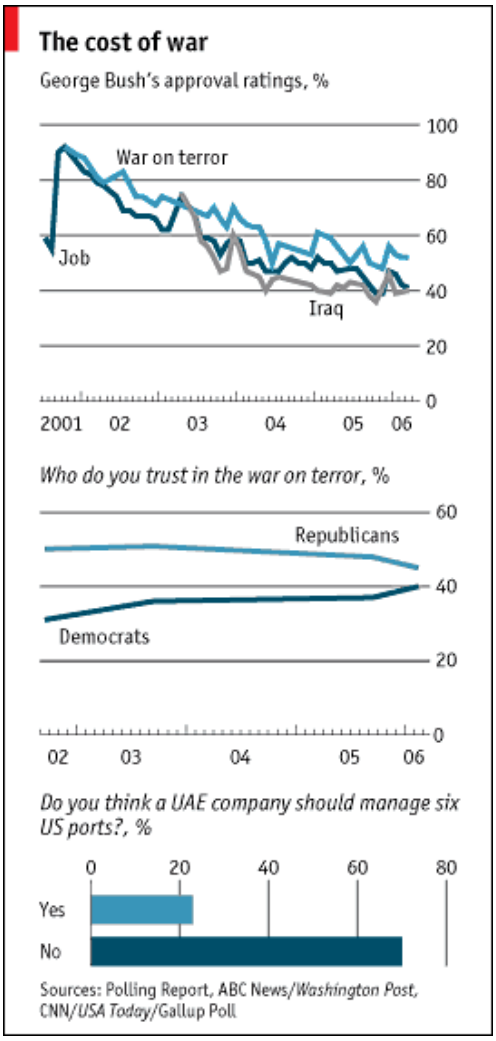
Republicans may have lost some of their lustre, but Democrats haven't gained much, argues Mr O'Hanlon. Mr Bush may not have shown much skill, but he has shown resolve in Iraq. And at home, his Department of Homeland Security has done as good a job “as you could reasonably expect”. Databases have been integrated and border security tightened to the extent that al-Qaeda has a hard time getting into America.

There remain serious weaknesses, of course. America's borders are still porous, its chemical plants vulnerable, and it is a long way from winning the battle for Muslim hearts and minds, as a young man named Mohammed Reza Taheri-azar demonstrated last week by allegedly driving a Jeep Cherokee across a college campus in North Carolina running down students.

Since Mr Taheri-azar was born in Iran, his one-man *jihad* has strengthened the hand of those who think that America's chief national-security problem is unassimilated immigrants. This view is most common among Republicans. The Senate Judiciary Committee was trying this week to cobble together an immigration bill that combined stricter controls with a guest-worker programme, as Mr Bush wants. But Republicans on the committee are divided, and if they cannot agree, an enforcement-only bill might pass.

Meanwhile, the Democratic National Committee has published a list of Republican “failures on homeland security”, which consists mostly of Republican failures to back Democrat-sponsored extra spending. The Democrats have struggled to offer a coherent alternative. On Iraq, the party is divided between those who think America should pull out now and those who would prefer to stabilise the place first. The former course would probably spark an Iraqi civil war (which, to be fair, most Americans expect to happen anyway), while the latter approach is the same as Mr Bush's.

One problem for the Democrats is that since Saddam Hussein's weapons of mass destruction were not found, Mr Bush has justified his war on idealistic grounds: replacing tyranny with democracy. Other Republicans, such as Senator Sam Brownback, take an even more moralistic line on foreign policy (see article).



Trust us, we're realists

Since the days of Woodrow Wilson, such liberal internationalism has traditionally been a Democratic position. Democrats who oppose Mr Bush find themselves arguing for a more “realist” approach—that America should be more cautious about trying to democratise the Islamic world. Many old liberals are uncomfortable with sounding so Kissingerian, which is one reason why the party now struggles to find a platform it can unite around, argues Peter Beinart, author of “The Good Fight”, a forthcoming book on liberals and foreign policy.

Both at home and abroad, the Democrats' best bet is probably to harp on about the Bush administration's undoubted incompetence. Bumper stickers of the “I've fixed Iraq, now I'll fix New Orleans” type will doubtless help. From her perch in the Senate, Hillary Clinton, the party's current frontrunner in the 2008 presidential stakes, is doing a fair job of sounding both hawkish and competent. For every threat, from terrorism to bird flu, she issues a timely, carefully-worded press release. She is also mastering the art of the empty patriotic gesture, long a Republican speciality: for example, co-sponsoring a bill to ban flag-burning.

Other Democrats think the party should go further. Steve Jarding and Dave “Mudcat” Saunders, two Democratic consultants, want to “hold the Republicans' feet to the fire” on national security, by pointing out how many top Republicans have dodged military service. The pair has an impressive record of wooing elusive rural, white male votes for Democrats, such as when they helped Mark Warner win the governorship of Virginia, a Republican stronghold, in 2001. But both sides can play hardball: Republicans gleefully point out that Bill Clinton was advising Dubai officials on the ports deal even as his wife was denouncing it.

For the foreseeable future, the Democrats will find it hard to supplant the Republicans as the party of national security. But to win elections, they don't need to beat them; only to neutralise their advantage. And that could happen.

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The World Trade Centre

Tower of Babel

Mar 9th 2006 | NEW YORK
From The Economist print edition

The only thing filling the hole at the World Trade Centre these days is talk

ACCORDING to George Pataki, New York's governor, a new lease for the World Trade Centre must be in place by March 14th. By March 31st, ground must be broken for the World Trade Centre Memorial. By the end of April, Mr Pataki says, workers must start building the Freedom Tower, America's tallest skyscraper. It is a stirring, ambitious agenda—but one that may be delusional. Mr Pataki can set as many deadlines as he likes. Enforcing them is another matter.

Bickering over Ground Zero began before the smoke had cleared from the towers' collapse. Four and a half years on, the argument is louder than ever. At the beginning of February Michael Bloomberg, New York's mayor, proposed changes to the rebuilding plan. Chuck Schumer, one of New York's two senators and never one to pass up a press conference, offered his own ideas soon afterwards. “We have moved from consensus to cacophony,” Mr Schumer lamented on February 27th.

Part of the problem is that no one is in charge: the Port Authority of New York and New Jersey owns the 16-acre site; Larry Silverstein, a 74-year-old developer, holds the lease; and a state- and city-appointed board is co-ordinating rebuilding. The governor is merely a referee without a whistle. Design by committee produced a plan that few are happy about. And with no market for the Freedom Tower, there is little impetus to begin construction.

The master plan—ostensibly finalised in 2003—calls for four towers. Mr Bloomberg argues that Mr Silverstein should build only two of these, including the Freedom Tower, and cede the rights to the other buildings. The planned 10m square feet of office space is too much, the mayor claims. He also argues that even with insurance proceeds and public subsidies, Mr Silverstein will not have the $7.3 billion needed at a minimum to build the entire site. Better, the mayor says, to give up two towers now rather than later.

“Soviet-style confiscation”, Mr Silverstein snapped in response. Some property people in New York think the developer's plan to build 10m square feet of offices makes sense. Even with modest projections of job growth, offices in midtown will become increasingly crowded and costly. Mary Ann Tighe of CB Richard Ellis (CBRE), the agent representing Mr Silverstein, estimates that the asking rents for the World Trade Centre towers will be about half those for new buildings in midtown. By the time the towers are finished, many companies will be ready to move south to the large, cheap offices served by a new transit hub.

This sounds promising, but two doubts cloud the picture. The first revolves around Mr Silverstein's ability to raise the cash to build all four towers—especially given these low rents. The second doubt concerns the Freedom Tower, which would dwarf the site's other buildings. Mr Pataki calls the tower a symbol of the “power, promise and pride of New York”. But there are plenty of security concerns, not least because the tower would be some 400 feet taller than the original World Trade Centre. A redesign that makes the tower's base look like a concrete bunker has done little to calm fears.

Although the Freedom Tower seems to have scant support outside the governor's office, no politician has been brave enough to speak against it, leaving property firms wondering how tenants will be induced to move in. Mr Silverstein and Mr Schumer want the Port Authority to be the Freedom Tower's anchor tenant. The Port Authority, which lost 84 employees on September 11th, is less enthusiastic.

With the fight over the towers raging ahead of—and most likely through—Mr Pataki's March 14th deadline, plans for the memorial are almost equally controversial. The current design features two reflecting pools and an underground museum. Victims' families contend that the underground portion disrespects the dead, while unions representing the police and the fire department have called it a “death trap”. Mr Bloomberg has become wary of the project's $500m price tag, dubbing it “phenomenally ambitious” as the memorial struggles to attract private donors.

If a sensible plan ever emerges from this maelstrom, downtown could be more vibrant than it was before September 11th. For the first time in decades, people want to live in the area: more than 6.6m square feet of older offices have been converted to apartments since 1997, according to CBRE. The hope is that downtown will also become more of a cultural hub, thanks to a new dance centre and theatre at the World Trade Centre site, and a

crop of new museums nearby.

But squabbling is likely to weigh down development for the near future. If an agreement on the towers does appear by March 14th, it is likely to be superficial, with few of the bigger questions resolved. It would not be the site's first empty gesture. In 2004 Mr Pataki helped lay the cornerstone for the Freedom Tower, calling it a “new symbol of American strength and confidence”. That was two years ago. Not another stone has been laid.

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The budget

Sound and fury

Mar 9th 2006 | WASHINGTON, DC
From The Economist print edition

Signifying even less than usual

Get article background

AMERICA'S budget process is an intricate political drama that consumes the Capitol for much of the year. The president's proposals, released in early February, are, despite their reams of detail, merely the opening act. They are invariably followed by months of loud partisan posturing in Congress. This year's performance looks particularly prone to theatrics—partly because George Bush has shown scant inclination to push his own budget but mostly because everybody else is treating the budget as a weapon for November's mid-term elections.

Mr Bush's budget plan extended his tax cuts and raised military spending, but was reasonably tough on other discretionary spending. It also proposed modest reductions ($65 billion over five years) in entitlement programmes, such as Medicare (which is to be cut by $36 billion).

That these priorities should be under fire from Democrats is no surprise. They also look set to use an upcoming vote on increasing America's debt ceiling as a way to attack Mr Bush's fiscal record. The oddity, however, is just how flat Mr Bush's plans have fallen with Republicans.

Conservatives in the House of Representatives worry that their supporters, infuriated by Mr Bush's profligacy, will stay at home in November. To show just how inadequate the Bush budget is, the Republican Study Committee, an influential group of conservative congressmen, released an alternative budget on March 8th.

Trying to evoke the spirit of their victorious “Contract with America” in 1994, this “Renewed Contract with America” promises to balance the budget in five years compared with Mr Bush's promise merely to halve the deficit by 2009. The conservatives would slash spending, especially on entitlements: farm subsidies would be heavily pruned and Medicare spending chopped by $218 billion.

This manifesto may steel House Republican leaders to push for some spending cuts, particularly on entitlements. Last year, in the wake of Hurricane Katrina, the same group pushed Congress toward bigger cuts in Medicaid than were originally slated. But other Republicans in the House and especially in the Senate are scared even by Mr Bush's $36 billion cut in Medicare. Sixty Republican representatives came out this week against cutting payments to hospitals. The Senate's budget blueprint is likely to include no requirement for entitlement cuts at all.

Put together Mr Bush's political weakness with the divisions in his party and the chances of genuine fiscal progress this year are slim. There may be some procedural improvements. On March 6th, Mr Bush proposed legislation that would allow him to stop individual elements of a spending bill. Bill Clinton got this “line-item veto” authority from Congress in 1996, but the Supreme Court declared the law unconstitutional. Mr Bush wants to be able to send back individual components of a spending bill to Congress for a second vote. This idea has support among both Democrats and Republicans.

There is also some enthusiasm for reining in “earmarks”—spending that is specifically targeted to an individual politician's district. For instance, there may be a ban on inserting such pork in the final stage when compromises between House and Senate versions of a law are being thrashed out. All long overdue—but hardly likely to balance the nation's books.

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Race relations in Los Angeles

Puffs of racial steam

Mar 9th 2006 | LOS ANGELES
From The Economist print edition

Are things as bad as the Oscar-winning film makes them out to be?

TWO young black men carjack a white woman's expensive SUV; a white, working-class police officer gropes a rich black woman while her husband, a black Hollywood executive, looks on in impotent rage; a Latina police detective and a Korean woman hurl racial insults at each other after a minor traffic accident; an Iranian shopkeeper sets off to kill a Latino locksmith who he assumes has cheated him. These are just some of the scenes in “Crash”, which at last weekend's Academy Awards won three Oscars—for best picture, best original screenplay and best editing—with its vivid, often amusing, portrayal of the racial tensions of Los Angeles.

Is racial conflict in America's second-largest city really so raw and pervasive? In the past month, fighting between Latino and black inmates in the Los Angeles County jail system has led to two deaths and left more than 100 people injured. Last year, there were several near-riots between Latino and black students at the giant Jefferson High School, just south of downtown LA.

In 1992, much of Los Angeles was caught up in rioting after the acquittal of four police officers, three of them white and the other Latino, for the brutal beating the previous year of a black man, Rodney King. The violence lasted for six days: 55 people were killed and almost 2,400 injured. Back in 1965, in the deprived area of Watts, the questioning by a white policeman of a black motorist sparked six days of destruction that left 34 people dead.

Yet opinions on race relations are themselves influenced by race: white Angelenos, living in the prosperous and near-homogenous western part of the city, tend to be considerably more optimistic (or complacent) than the Latino and black residents of the poorer south and east. A study last year by the Public Policy Institute of California found that 70% of blacks and 64% of Latinos thought race relations in LA County were either “not so good” or “poor”, whereas the figure for whites was 52%, and for Asians just 36%. Similarly, 73% of blacks and 50% of Latinos thought that police treatment of racial groups was fair “only some of the time” or “almost never”. A mere 30% of whites, and 38% of Asians, held this negative view. As Earl Ofari Hutchinson, a black activist in Los Angeles, wryly notes: “Many blacks take it as an article of faith that most whites are hopelessly racist.”

The obvious correlation is with economic status: whites and Asians are at the top of the heap while Latinos and blacks struggle at the bottom. When the Watts riots broke out, the neighbourhood was almost entirely African-American. Today the black proportion of the Watts population is down to 38%, while the Latino share is 61%. As the Latino population grows with immigration, especially from Mexico, blacks throughout the region are finding it ever more difficult to get jobs and housing.

Today Latinos make up at least 45% of the 10m residents of LA County, and blacks only 10%. Jamal Watkins, the western regional director of the National Association for the Advancement of Coloured People (and a man who has seen “Crash” twice), reckons that “many bosses, based on prejudice, prefer to hire a Hispanic.”

Probably so, though it is an oversimplification to think solely in terms of black versus Latino. In the 1992 riots, for example, many of the rioters' targets were Korean and other Asian businesses (the previous November, a Korean shopkeeper had shot dead a black girl who she thought was shoplifting). Latinos and blacks were equally represented among the arrests, and there were some white looters, too.

Yet it is questionable whether all this amounts to the seething cauldron of racial unrest portrayed in “Crash”. Gregory Rodriguez, a leading Latino commentator, believes that Los Angeles “does a remarkable job of mixing in an extraordinary array of people from around the globe.” He notes, too, that the battles between the city's Latino and black gangs are not primarily about race but about territory, and the drug-trafficking that goes with it. It is a mistake to “categorise the minorities by the behaviour of their most aberrant members.”

Clearly so. It helps, too, to remember that Antonio Villaraigosa, LA's first Latino mayor since 1872, was elected last year with 59% of the vote by forging a coalition that included black voters as well as Latinos and whites.

Not everyone is convinced. Mr Hutchinson runs an “urban policy roundtable” each week, sometimes involving officers from the much-maligned LA Police Department, and sadly he has yet to hear blacks talking favourably about their relations with Latinos. “Crash”, in his opinion, was a welcome call for everyone to “confront their

stereotypes". Perhaps its audience will recall that famous plea from Rodney King: "Can we all get along?"

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The Lost Cherokees

Waiting their turn

Mar 9th 2006 | LITTLE ROCK
From The Economist print edition

A tale of a gross injustice, forked tongues and casino money

THE history of Native American tribes is rife with suffering and intrigue. Few however have as complicated an ancestry as the Lost Cherokees. Originally from Tennessee, they were shuttled into Arkansas by the federal government in the early 19th century. Desperate to hang on to their new home, the Cherokees went to Washington, DC, to plead their case; but in 1828 they were forced to sign a treaty giving up the Arkansas Reservation for a new home in what later became Oklahoma.

The tribe split. One group walked the “trail of tears” to Oklahoma. Those who refused to accept the treaty stayed in Arkansas—but at the cost of losing their sovereign status and hiding their ancestry. They were often known as the Black Dutch or the Black Irish. Now these Lost Cherokees, who number around 9,000 in Arkansas with several hundred more in southern Missouri, are fighting for recognition as a proper tribe.

The federal Bureau of Indian Affairs (BIA) has been reviewing the Lost Cherokees' case since 1999. The tribe has twice asked Arkansas's attorney-general, Mike Beebe, to certify a question for the November ballot asking voters to grant them state recognition. Mr Beebe, the likely Democratic candidate for governor, pleads that this is a federal responsibility. This looks a little rum. Other states have recognised tribes, something that appears to help them with various bits of the federal government even if official designation as a tribe depends on the BIA.

Cliff Bishop, the Lost Cherokees' headman, claims the 1828 treaty was illegal. Federal recognition would bestow millions of dollars in aid on Mr Bishop's tribe. They need it, he says, for university scholarships, economic development assistance, protection of sacred burial grounds and for medical care. Critics, however, think the tribe has a hidden agenda.

If the Lost Cherokees were recognised by the federal government, the state might well have to grant them at least a slice of their original territory. The tribe could become an Indian nation within the state and open casinos. Gambling on Indian territory now brings in $18 billion a year. Arkansas would be a good target: only a few parts of the state allow limited gambling.

Mr Bishop adamantly denies any desire to set up casinos. In a sad twist of history, he blames the rumour on the tribes in Oklahoma who have a strong vested interest in luring Arkansans across the border to gamble in their own casinos. And to complicate things still further, this week the United Keetoowah Cherokees, who do have federal recognition, said they would open up a casino in Fort Smith on land claimed by the Lost Cherokees.

The federal government recognises 562 tribes. Out of the 150 petitions received since 1978, the BIA has granted recognition in only 15 cases and refused another 19. It says it treats each case on its merits, but Indians suspect that the cost of recognising tribes plays some role in the BIA's apparent sluggishness. Even if a tribe is recognised, individual members have to meet certain ancestry criteria to get BIA money: in some cases being quarter Indian is enough to get the cash.

Petitioning-tribes moan that they have to send mountains of ancient documents to the bureau. They also often spend fortunes on lawyers (and sometimes lobbyists, as the Abramoff scandal showed). In many cases, the wait is so long that by the time a petition is granted the elders who made it have died.

On the other hand, it is often hard to tell who deserves what. For instance, nobody denies that the Lost Cherokees have been treated unfairly; but there are fierce arguments about who exactly is in the tribe, which also goes by two other names (the Arkansas Cherokees and Cherokees on the Arkansas river). Mr Bishop seems to head the main faction, but others call his lot a “wannabe fringe group”.

The Lost Cherokees still hope to be recognised by the Arkansas legislature by the end of next year—though it won't help them if Mr Beebe becomes governor. It may take even longer to get anything from the federal government that treated them so harshly nearly 200 years ago.

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Baseball and national pride

The threat from the north

Mar 9th 2006 | PHOENIX
From The Economist print edition

AP

And then it went wrong

Can America's favourite pastime become the world's?

WITH the Winter Olympics barely over, isn't it time for a respite from sporting patriotism? Try telling that to the jazzed-up, flag-waving fans that flocked to Phoenix this week to watch Team USA beat Mexico, and then, rather amazingly, get beaten 8-6 by Canada, in the first-ever World Baseball Classic.

For those who have never heard of this tournament—don't worry, you are in the majority—it essentially aspires to be the World Cup of baseball. Teams from 16 countries are competing: China and “Chinese Taipei” have already been knocked out. Team USA's multimillionaires may follow them out if results don't go America's way at the end of the week; but the organisers are still hoping that the home team will reach the finals in San Diego on March 20th.

That game is sold out, but the games so far have drawn fairly meagre attendances. The ones in Phoenix were about two-thirds full. So why is Major League Baseball (MLB) spending millions to create a tournament at the front end of a season that is already six months long? Good question, say some MLB owners. They resent the disruption to spring training, and fear injury to star players.

Outside the ground where the New York Yankees practice, a sign pointedly apologised to fans because the players they might want to see most (Alex Rodriguez and Derek Jeter, for example) were away playing in the Classic. Sportswriters have linked the sign (now removed) to the hostility of the Yankees' owner, George Steinbrenner, towards the tournament. Several famous players have also publicly dithered over whether to join their home squad.

Bud Selig, the commissioner of MLB, is undeterred. Despite record attendance at regular-season games last year, he wants more fans abroad. Some markets, of course, don't need an extra nudge. Latin America is a huge supplier of baseball stars and giddy fans. Six teams from south of the border, including Cuba, are entered in the Classic, and the Dominican Republic and Venezuela, together with the United States (provided it survives the first round), are favourites for the championship trophy. Japan too is batty about the game. But Europeans mostly disdain it. Only the Netherlands and Italy have shown up, and both will probably be eliminated in the first round, despite being padded with Major Leaguers claiming Dutch or Italian roots.

Mr Selig plans the next tournament for 2009, a year after baseball's final appearance at the Summer Olympics (coming smack in the middle of the Major League season, the game has been a flop at the Olympics). But he has had bad luck with publicity at home. The papers are full of fresh revelations about steroid abuse by various players. And losing to a self styled “hockey country” at your national sport was not really the ideal start.

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Lexington

The Wilberforce Republican

Mar 9th 2006
From The Economist print edition

Sam Brownback is redefining the Christian right

Get article background

THESE days the closest thing that liberal America has to a civic religion is “tolerance”. Emit the merest whiff of prejudice against Welsh-Americans or “the transgendered community” and you risk committing social suicide. Deliver a succession of windy speeches on the wonders of “diversity” and you are likely to end up as the president of an Ivy League university. However, as conservatives always point out, one group of people has been conspicuously exempted from this cult of tolerance: heart-on-the-sleeve Christians. In many of the more politically correct parts of America you can say anything you like about the God squad—dismiss them as poor, uneducated and easily led; ridicule their leaders as money-grubbing Neanderthals; hint that they spend most of their spare time dressed in white sheets—and you will still be welcomed in polite society.

Any liberal American who believes these stereotypes should spend some time studying an outside bet for the Republican nomination in 2008. Sam Brownback, the senior senator from Kansas, ticks all the right Christian-conservative boxes. He is strongly opposed to both gay marriage and abortion. He won his Senate seat back in 1996 by campaigning on the “three Rs”—reduce (the size of government), reform (Congress) and return (to traditional values). He hails from a state that liberals regard as embodying everything that has gone wrong with America. To cap it all, Pat Robertson regards him as “outstanding”.

Yet the more you study Mr Brownback the more surprising he becomes. He may represent a landlocked state in the Midwest, but his biggest interest lies in foreign policy—and in particular in fusing diplomacy and humanitarianism. He is second-to-none in Congress in campaigning against the horrors that have been unfolding in Darfur in western Sudan, and in pleading the case for addressing HIV and malaria; he has been a relentless critic of the North Korean regime (“if hell is the absence of God,” he once said, “I think you can see North Korea is the closest place to that on earth”); and he has sponsored legislation against sex trafficking. And these sermons are based on experience: he is a frequent visitor to some of the world's most troubled places, urging people to take their holidays (or “impact trips”, as he calls them) in Rwanda rather than Europe.

Which is not to say that his compassion begins at the ocean's edge. Mr Brownback is a leading campaigner for reforming America's prisons, particularly the rehabilitation of ex-cons (he notes that faith-based programmes are much better at keeping prisoners on the straight and narrow because they are better at providing them with a support network when they leave). He helped sponsor a new museum of African-American history: now he wants an apology for Native Americans. Even some of his most “hard right” positions, such as his support for marriage, have a soft component: he produces reams of social science research about how marriage is “a leading poverty reducer”.

Mr Brownback's politics is rooted in his religious faith. He was raised an evangelical Protestant, a son of Osawatomie, a longstanding hotbed of Kansas evangelism (and a centre of the abolitionist movement before the civil war). But a few years ago a brush with cancer changed his life, persuading him to put religion at the forefront of his political persona. He was particularly moved by reading a biography of William Wilberforce, a British anti-slavery agitator. He also became a Roman Catholic. He now attends two services every Sunday—mass and also one with his family, who remain evangelical Protestants.

Mr Brownback's enthusiasm for mixing God and politics has left him with lots of strange bedfellows. He co-sponsored legislation against sex trafficking with the late (and near socialist) Paul Wellstone and co-sponsored the North Korea Refugee Act with Ted Kennedy. He frequently rubs shoulders with feminists and black activists. Indeed, he is arguably today's champion of liberal internationalism, the baton having been passed from the Clintonites (who are now out of power) and from human-rights groups (who are divided over things like sex trafficking).

Mr Brownback is not the only “Wilberforce Republican”. A growing number of people on the Christian right think that America's role in the world is to go out and slay dragons, whether they be in the form of religious persecution or prostitution. Plenty of young conservatives have turned their attention away from the domestic culture wars that their parents obsess about to more global issues like the environment and poverty.

What's gone right in Kansas?

All of which makes Mr Brownback an intriguing candidate for 2008. His political challenge will be how to avoid becoming a prisoner of the hardline Christian right—Mr Robertson *et al* might help him win a few primaries but doom him to marginalisation. Mr Brownback should be able to sidestep that trap. His enthusiasm for saving children in Darfur as well as fetuses in Kansas makes his social conservatism more acceptable to moderates (so does his mellifluous manner).

The bigger problem is that his compassionate foreign policy comes across as hopelessly naive. The neoconservatives' enthusiasm for spreading democracy in the Middle East is often lampooned nowadays, but at least they tried to link American idealism with American interests (in bringing peace and prosperity to the world's main source of both oil and terrorism). Mr Brownback's idealism is unconstrained by anything so vulgar as the national interest and power politics. Marvellous though it is to hear him denounce North Korea as hell on earth, presidents have to head off conflict with rogue states and advance America's trading interests. Americans are growing weary of a born-again president who wants merely to transform the Middle East. They will need a lot of convincing to back a man who wants to abolish suffering wherever he can find it.

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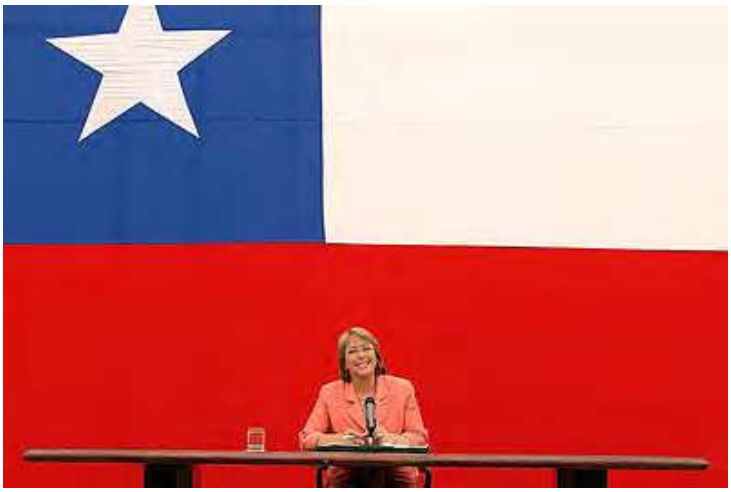
Chile's new president

Bachelet's citizens' democracy

Mar 9th 2006 | SANTIAGO
From The Economist print edition

AFP



A brave new dawn for Latin America's most conservative country

Get article background

THERE is no doubting the star quality of Michelle Bachelet. The woman who will be sworn in as president on March 11th has already altered Chile's idea of itself. The great economic success story of Latin America has also long been seen as its most socially conservative country. Ms Bachelet, however, is an agnostic separated mother of three children who hails from the left-wing of the Socialist Party and spent years of exile in East Germany. Can she strike a successful balance between change and continuity?

Ms Bachelet will head the fourth successive government of the four-party centre-left Concertación coalition, which has ruled since the end of the dictatorship of General Augusto Pinochet. The Concertación kept the dictatorship's free-market policies which, eventually, brought rapid economic growth, but matched them with more effective social policy. Chile enjoys policy stability and political consensus of a kind that is rare in Latin America, so radical change is not in store. But the new president has promised to govern in a more open way, with more say for citizens' groups and less for political parties.

That spirit of openness is reflected in the composition of her cabinet. This belies her political origins. Only two of its members—Andrés Zaldívar in the interior ministry and Alejandro Foxley, the foreign minister—have previous ministerial experience. Half are women, fulfilling an election promise. Several ministers do not belong to a party. They include Andrés Velasco, a Harvard economics professor, at the finance ministry. He is one of several liberal technocrats in the cabinet who, like Ms Bachelet, speak fluent English. The new team has more PhDs, MBAs and business experience than its predecessors. “They're global citizens,” says Gonzalo Larraguibel of McKinsey, a management consultancy.

Ms Bachelet herself is a relative newcomer to politics. She became the Concertación's candidate not as a result of a traditional slog through the party machine, but of the sudden popularity she acquired as health and then defence minister under Ricardo Lagos, the outgoing president. She is likely to rely heavily on Mr Zaldívar, a Christian Democrat who held his first government job in the 1960s and who may, in practice, play the role of prime minister.

The new president inherits many advantages. Helped by the high world price of copper, which accounts for 45% of exports, the economy is growing at 6% a year. In winning the election in January, Ms Bachelet was helped greatly by the popularity of Mr Lagos, another socialist. Unlike her predecessors, she will have a slim majority in both houses of Congress, thanks to a reform which abolished nine non-elected senators bequeathed by General Pinochet. But that reform also cut the presidential term from six years to four.

The question now is whether her clever technocrats have the experience and patience to work with a leisurely civil service, which is only just starting to be professionalised. Or to sit through public debates on issues to which they already have the answers—or indeed to work effectively with the Concertación's professional politicians, many of whom, like Ms Bachelet, spent years of exile in socialist countries.

For all Chile's successes, these new and untested politicians face several complex challenges. To sustain economic growth as well as to create a fairer society Chile needs to improve its education system, which currently fails the poor. Another priority is reform of the privatised pension system. That involves striking a balance between the economic liberalism of her technocrats, who favour more competition among pension providers, and the demand of some Concertación politicians for harsher regulation.

A third challenge is to secure the energy Chile needs for growth. Argentina has cut its exports of natural gas to its neighbour. One alternative involves building four hydroelectric dams in a pristine area in the south. That would guarantee a clash with greens. Ms Bachelet courted them during the election campaign with the promise of a new environment ministry with regulatory teeth. Another possibility would be to import gas from Bolivia. But that requires an ambitious effort to settle a century-old demand by Bolivia for access to the sea.

The new president has said that she would like to be remembered both for what she achieves and for how she achieves it. That is a tall order. To secure change, boldness will have to be tempered by compromise, and citizen democracy with professional politics.

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Brazil's presidential election

The mayor or the governor

Mar 9th 2006 | SÃO PAULO
From The Economist print edition

Choosing a challenger to Lula

Get article background

FOR the moment, Luiz Inácio Lula da Silva, a still undeclared candidate for a second term as Brazil's president next October, is running unopposed, campaigning across the country and rising in the polls. Over the next few days that is set to change. The Party of Brazilian Social Democracy (PSDB), which has the best chance of beating Lula, is on the verge of choosing its candidate. The large but amorphous Party of the Brazilian Democratic Movement (PMDB) is to choose on March 19th. Others may join the fray, but these are the challengers that matter.

The PSDB, in particular, faces an agonising choice. Under Fernando Henrique Cardoso, it governed Brazil from 1995-2002. According to the polls, its best bet is a rematch between Lula and José Serra, who lost the 2002 election and is now the mayor of São Paulo, Brazil's biggest city. Mr Serra's chief rival for the candidacy is his crosstown neighbour, Geraldo Alckmin, who is finishing his term as governor of São Paulo state, Brazil's biggest and richest. Their internecine struggle is fraying the PSDB, and may account for part of Lula's recent recovery in the polls.

Brazil has no tradition of presidential primaries, although the PMDB may hold one. In the PSDB's case, a troika of hierarchs including Mr Cardoso will this month present a name for rubber-stamping at a convention in June.

The troika is thought to lean towards Mr Serra, an economist and former health minister. He is from the PSDB's "developmentalist" wing, which wants the state to play an active role in promoting economic growth. Mr Alckmin, who is economically more liberal, is favoured by business.

Rather than policy nuances, the choice may be swayed by intricate calculations about São Paulo politics. Mr Serra has only been mayor for 14 months. He promised to serve a full four-year term. If he steps down, the PSDB would lose the city hall, since his deputy is from the Liberal Front, an allied but conservative party.

The state governorship of São Paulo is Brazil's second most powerful elected job. But the PSDB lacks an obvious candidate to replace Mr Alckmin—apart, that is, from Mr Serra. On the other hand, were Mr Serra to lose again to Lula that might well finish his political career. So those arguments point to Mr Alckmin winning the presidential nomination. He is less well-known outside the state than Mr Serra, but the campaign might change that.

Both men have carped about high interest rates, Mr Serra more vehemently, but neither is likely to abandon economic prudence. That risk comes from Anthony Garotinho, a populist former governor of Rio de Janeiro whose wife now has the job. He is competing for the PMDB's presidential nomination against Germano Rigotto, the moderate governor of the southern state of Rio Grande do Sul.

Whoever the PMDB names may not survive a convention in June. The party is a confederation of regional baronies. Its priority is to increase its current tally of nine state governorships. It may end up backing Lula. It is even less likely to field its own presidential candidate if the courts uphold a rule that bans parties from forming different alliances at national and state level.

So the race may boil down to a contest between Lula and whoever the PSDB chooses. Lula is ahead, but his support is strongest in the poor north-east, "where the vote is more changeable," says Gaudêncio Torquato, a political analyst. The opposition will remind voters that Lula's Workers' Party is responsible for the worst corruption scandal in a dozen years. Mr Torquato predicts "a bloody struggle."

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Mexico, Cuba and the United States

Sheraton's Fawlty Torres

Mar 9th 2006 | MEXICO CITY
From The Economist print edition

A storm in a hotel room

WHEN local governments plunge into foreign policy, they risk embarrassing their national counterparts. That is what has happened in the latest tiff between Mexico and the United States. It began last month when American businessmen and local officials from Texas and Louisiana gathered at a Sheraton hotel in Mexico City to discuss with Cuba's communist government whether the island's oil industry might in future be opened to American investment. The meeting was rudely interrupted when the hotel evicted the 16-member Cuban delegation (while keeping their deposits).

Starwood, the American company that owns the hotel, says it acted after being warned by the United States' Treasury Department. The Treasury Department says in turn that it was applying the trade embargo that prevents American-owned companies from providing services to Cubans.

The hotel may be next door to the American embassy, but the application of foreign law on Mexican soil was calculated to cause outrage. The government of President Vicente Fox is keen to remain on good terms with George Bush's administration. At first it said the affair was a private matter.

So it was left to Virginia Jaramillo, the *delegada* (mayor) of Cuauhtémoc, the Mexico City district where the hotel is located, to defend national honour. She argued that the hotel was guilty of discrimination. Her officials pored over the fine print of local regulations and discovered a slew of violations—the hotel lacked menus in braille, for example.

Ms Jaramillo ordered the Sheraton to close. Officials slapped stickers announcing this on its doors. At the last minute, that was changed to a fine of 225,500 pesos ($21,100). By then, the government had criticised Ms Jaramillo, who is from the leftish opposition party of Andrés Manuel López Obrador, the frontrunner in July's presidential election, for political grandstanding over the issue.

Throughout the cold war, Mexico managed to stay on good terms with Cuba while allowing America's CIA to spy on the activities of Cubans in Mexico. That kind of balancing act seems to have got harder. As for the United States, it has become ever more heavy-handed in enforcing an embargo that many of its citizens disagree with.

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Fissiparous Canada

The lumberjacks are not OK

Mar 9th 2006 | OTTAWA
From The Economist print edition

Why a bit of Ontario wants to break away and join another province

MENTION secession in Canada, and the mind turns to Quebec, and perhaps the restive western provinces. Now add to that list the inhabitants of the north-western part of Ontario, in the heart of the country. But rather than yearning to leave Canada, they want to leave their province and join Manitoba next door. If they get their way, Ontario would lose 60% of its area, though just 2% of its people.

The ambivalent loyalty of these Ontarians has deep roots. When Canada became a confederation in 1867, both provinces claimed part of north-western Ontario. For a while they ran rival police forces and town councils in Kenora (see map). Now once again the people of Ontario's stony hinterland, stretching over a vast emptiness between Lake Superior and Hudson Bay, have tired of what they see as neglect from the provincial government in distant Toronto.

Dissatisfaction has been given urgency by the woes of their main industry. The past year has seen 31 full or partial closures of pulp and paper mills in Canada, 13 of them in Ontario. The pain is felt most keenly in smaller towns. In 2005, three mills closed in Thunder Bay, the regional centre with 100,000 people, two in Kenora (population 11,000), and one in even-smaller Dryden. More are on the way.

Worldwide, the industry is suffering as the paperless office at last becomes a reality, and newspaper circulations flag. Canada's Pulp and Paper Products Council, an industry body, says North American newsprint sales fell 8.5% in January compared with a year ago. Classified advertising has migrated to the internet; many papers have adopted smaller formats. In addition, Canada's mills are battling higher energy costs, a strong currency and competition from Brazil and Indonesia, where trees grow faster.

“We have to do something or there will be nobody left up here,” says Dave Canfield, the mayor of Kenora. He is frustrated by the Ontario government's slow response to his town's economic problems. Together with other politicians in the area, he has formed a group studying whether they should stay in Ontario or leave it.

Dalton McGuinty, Ontario's premier, seems to be taking this threat seriously. On a flying visit in late February, he flagged up a C$220m ($194m) package to subsidise road building and to lower the stumpage fees charged by the province for felling trees. This followed two other schemes worth a combined C$680m. Too little, too late, say some north-westerners.

Another provincial scheme, which caps electricity charges for industrial users for three years, has been met with similar scorn. Industrial users in Ontario pay twice as much as in Manitoba or Quebec. The north-west, self-sufficient in power, objects to paying for expensive nuclear power plants near Lake Ontario, built to meet southern demand. Mr McGuinty agreed last week to consider local price differentials, but made no promises.

Joining Manitoba might offer not just cheaper energy but more political clout. Manitoba has only 1.2m people compared with Ontario's 12.6m, so the north-westerners would become a much bigger fish in a smaller pond. Thunder Bay, the 12th largest city in Ontario, would leap to second spot in Manitoba, behind Winnipeg, the capital. The north-west has only three of the 103 seats in Ontario's legislature but in an expanded Manitoba could expect eleven out of 68 seats.

The flirtation with Manitoba may be merely a cry for more attention from Toronto. Secessionist sentiment in north-west Ontario has waxed and waned before. But Livio di Matteo, an economist at Lakehead University in Thunder Bay, says it has never before been so strong. He would prefer more autonomy within Ontario, but accepts that there would be political benefits in joining Manitoba to form a new province called, perhaps, Mantario.

Would Manitoba welcome this? Gary Doer, its premier, was coy when asked recently. He said that he did not want to meddle in another province's affairs, and that Ontarians would have to settle the matter among themselves. But

he added that Manitobans have a lot in common with the people of north-western Ontario. It seems the door is open.

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Argentina

Barring Ibarra

Mar 9th 2006 | BUENOS AIRES
From The Economist print edition

AFP

The capital's mayor pays for a bureaucracy's sins

AFTER a fire in an overcrowded nightclub killed 194 mainly young people during a concert in December 2004, the streets of Once, a working-class part of Buenos Aires, were plastered with posters showing a characteristically Argentine sense of justice. “Neither a flare nor rock 'n' roll killed the kids. It was corruption,” they claimed.

Fourteen months on, investigators have yet to identify who threw a firework at the club's highly inflammable ceiling, sparking the inferno. Omar Chabán, the club's owner, faces manslaughter charges; he is said to have sold three times more tickets than the club's capacity and locked the emergency exits. This week those seeking political blood got their man when the city council, sitting as a court, voted by the necessary two-thirds majority to sack the mayor of Buenos Aires, Aníbal Ibarra.

His critics blame Mr Ibarra for failing to root out a culture of bribery and bureaucratic sloth in the city administration. This, it is said, let Mr Chabán flout safety regulations and meant that firefighters and ambulances were slow to arrive at the scene of the fire.

But the impeachment makes many in Argentina uneasy. A recent poll in the capital found that 60% wanted the mayor to stay. His opponents in the city council are accused of opportunism. Almost all Argentine officeholders find themselves rubbing along with petty corruption and inefficiency. Any might now be impeached. Not surprisingly, several senior officials in the federal government of Néstor Kirchner, Argentina's president, came out in support of Mr Ibarra. The president himself has remained silent, though he backed Mr Ibarra's re-election campaign in 2003.

None of Mr Ibarra's supporters wanted him to keep his job as much as some of the victims' families wanted to remove him. They organised a formidable campaign of public demonstrations. It recalled protests against the “dirty war” waged by the military dictatorship of 1976-83. “Parents crying because their children are gone triggers a familiar image in Argentine society, which is that the state can kill you,” says Sergio Berensztein, a political scientist at Torcuato di Tella University. Unfair or not, the ousting of Mr Ibarra may carry a salutary wider message. In future, Argentina's elected politicians may be held more closely to account for the shortcomings of their officials.

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China

Planning the new socialist countryside

Mar 9th 2006 | BEIJING
From The Economist print edition

Getty Images

Spooked by angry peasants, China raises spending

IN HIS annual state-of-the nation address to the National People's Congress, the Chinese parliament that meets for only ten days a year, China's prime minister, Wen Jiabao, set out what he described as a “major historic task”. The aim, he said, was to bring about rapid and significant change in rural areas, which have lagged far behind the booming urban ones and witnessed growing unrest. But although Mr Wen pledged more spending to build what Beijing is nowadays calling a “new socialist countryside”, he offered few durable remedies. A new five-year plan suggests that the rural-urban divide may remain just as wide at the end of the decade.

Speaking on March 5th, Mr Wen was blunt about China's many difficulties. His list included continuing overheating of investment in factories, machinery and other fixed assets; rising inventories and falling prices; a decline in corporate profits and mounting losses that were creating “greater potential financial risks”. But his speech focused on what has lately become the Communist Party's much proclaimed mission of addressing rural China's woes.

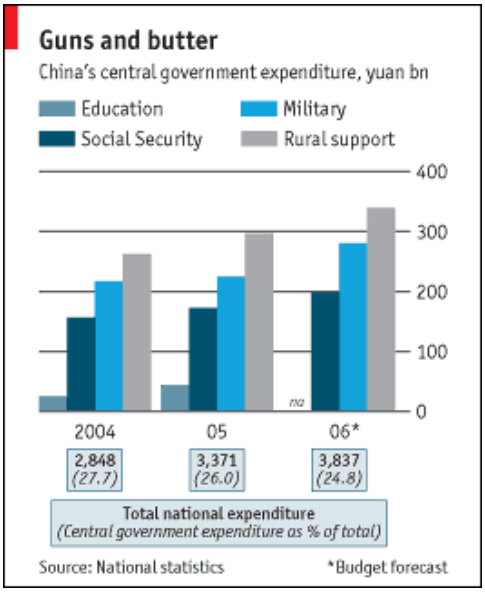
None of the problems on Mr Wen's list appears to pose any immediate threat to the country's high-speed development. Mr Wen predicted that GDP should grow this year by 8%. But officials have a tendency to underestimate, fearing that higher targets might encourage reckless investment. Many expect something closer to last year's 9.9%. The new five-year plan makes an even more modest prediction of 7.5% annual growth, on average, through to 2010. But the double-digit targets already set by some local governments suggest fewer inhibitions.

Despite the hype, Mr Wen's remedies for the countryside contained little new. They included the scrapping of agricultural tax this year, extending an experimental health-care insurance scheme to 40% of counties and the elimination by the end of next year of tuition and other fees for rural students receiving compulsory education. Central-government spending on rural areas for everything from health care to subsidies for grain producers is to increase by 14.2% this year to 340 billion yuan ($42 billion). And government spending on infrastructure will be shifted towards rural areas. More will be spent on projects such as rural roads, water and power supplies, schools and hospitals.

These measures do not herald any remarkable policy shift. Central-government spending on the countryside will still amount to only 8.9% of total government expenditure, up from last year's 8.8% but down from 9.2% in 2004. Abolishing the agricultural tax and other fees imposed on peasants will save each rural dweller an average of 156 yuan ($19) a year—about 4.8% of net income. But despite promised transfers of 103 billion yuan annually to fill the resulting hole in local finances, it is not clear that these funds will be sufficient. A quarter of the money is supposed to come from local governments, which may well have other plans for it.

To compensate for the abolition of school fees, the government will

spend an extra 218 billion yuan on rural schools over the next five years. Mr Wen said a way of sharing this between central and local governments would be worked out “gradually”. But even if governments at various levels can agree on a formula, it is not clear whether this money will make up for the whole shortfall.



How much more will be spent on rural infrastructure is also unclear. As usual in China, the spending detail is mostly secret. The budget report put last year's central government spending on rural infrastructure at 81.3 billion yuan. But it gave no figure for 2006. Even the proposed 14.2% increase in total central spending on all rural projects is not that remarkable. It is only a little higher than the projected increase of 13.8% in all government spending (central and local) this year. And the increase is smaller than the 14.7% rise, to 281 billion yuan, planned in military spending in 2006. (True military expenditure is much higher, say western analysts.)

The government certainly has the ability to spend more. Total government revenues have been growing strongly. Last year they increased by nearly 20% and are predicted to rise by 12% this year. The target for the budget deficit is a manageable 1.5% of GDP in 2006, down from 1.6% last year.

However, spending can only be one part of a solution to the complex woes of the rural areas. Many of these stem from a system of inter-governmental fiscal transfers that place enormous burdens on low-level governments to finance public services. They are aggravated by a system that shares tax revenues between central and provincial governments to the benefit of the richer regions. The peasants are at a further disadvantage in that they do not have clear legal title to their fields, making them vulnerable to the whims of developers. Mr Wen called for strengthened resolve to “accelerate all reforms”. But central and local leaders dispute how best to tackle such issues, and Mr Wen provided no details about how he expects them to resolve their differences.

Given that some 200m rural Chinese have little or no work, one way to spread wealth would be to let them to take more productive jobs in urban areas. But China's leaders, and many town-dwellers, are already anxious about the numbers flowing into the cities. Such fears would increase if the remaining barriers to migration were suddenly removed. The plan predicts only a modest increase in officially allowed migrant numbers, from an annual average of 8m in the last five years to 9m in the next. Even if the true number is much higher, this is only the smallest of escape valves in the great political pressure-cooker that is China's troubled countryside.

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India

Waiting for the backlash

Mar 9th 2006 | DELHI
From The Economist print edition

The country's holiest city is bombed

INDIA'S main opposition party, the Bharatiya Janata Party (BJP), was quick to make capital out of the bombings on March 7th in Varanasi. These killed at least 14 people and injured dozens more. L. K. Advani, a veteran BJP leader, who has needed a cause since he lost the party presidency last December, announced that he would lead a country-wide *yatra* (journey) later this month. The theme would be “national integration”, which suggests it could become a rallying point for Hindu nationalists: bad news for India's Muslim minority.

Such a reaction is perhaps not surprising, given that Tuesday's attacks were directed at the heart of the Hindu religion. One bomb exploded near the banks of the sacred Ganges river at the Sankat Mochan Temple, which is dedicated to Hanuman, the monkey god and protector of the faith. Varanasi, a 2,500-year-old city that was called Benares when India was under British rule, is dedicated to Shiva, a leading deity. It is a centre of learning for Sanskrit scholars and is both a pilgrimage and tourism centre. Till now, its large Hindu and Muslim communities have lived peacefully together, despite many clashes elsewhere in the state of Uttar Pradesh.

Mulayam Singh Yadav, the state's chief minister, suggested that Pakistan-backed terrorists might be responsible for the attacks. That was supported by local police officers, who announced that they had killed an alleged Islamist terrorist belonging to the Pakistan-backed Lashkar-e-Taiba. They said the terrorist was wanted in connection with bombings that killed more than 60 people in Delhi last October, and was “probably” linked with the Varanasi blasts. India's Congress-led government refrained from accusing Pakistan, in line with its aim of encouraging talks and peaceful exchanges. But other parties are now attacking that policy, and the government will also be criticised by the BJP during campaigning for elections in five states in the next two months for what Mr Advani calls “minorityism” policies favouring Muslims.

Despite the tension, Varanasi and surrounding areas remained calm after the blasts. But the atrocity is fertile ground for Mr Advani. He led a *yatra* in the 1980s that resulted in the demolition of a mosque in the city of Ayodhya, sparking religious riots across the country.

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Pakistan and America

Jilted

Mar 9th 2006 | ISLAMABAD
From The Economist print edition

George Bush comes and goes. And a nation goes into a sulk

AP

Bush played softball

AFTER George Bush's "historic" visit to India, his brief stop in Pakistan on March 3rd-4th was bound to be an anticlimax. But it turned out worse than that. It left Pakistan's large anti-American lobby with plenty of grist to mill into accusations of hypocrisy, fickleness and untrustworthiness. Pervez Musharraf, Pakistan's president, champion of the alliance with the United States, and a man Mr Bush calls "my buddy", found himself looking more beleaguered than ever.

Mr Bush made history in India by rewriting the global rules governing nuclear power and weapons to make an exception for his hosts. Pakistan, which, like India, exploded nuclear bombs in 1998 and has never joined the global non-proliferation regime, is receiving no such favour. Of course, its record on proliferation is so nefarious that this was never on the cards. But there could be no starker example of the higher priority America now attaches to its relations with India.

Pakistani officials argue that, in substance, Mr Bush's visit brought them almost all that had been planned for it. The only failure was in not signing an intended "Bilateral Investment Treaty", because of some outstanding differences. (So, wags said, India got a great nuclear deal; Pakistan not even a little BIT.)

However, even Tasnim Aslam, who speaks for Pakistan's foreign ministry, concedes that public perception of the visit was "extremely negative". There was already a long list of popular grievances with America: the wars in Afghanistan and Iraq, and an American air-strike in January inside Pakistan's territory, aimed at alleged terrorists, but also killing civilians. Against this background, big popular demonstrations last month over the publication in Europe of cartoons of the prophet Muhammad, whipped up by Pakistan's Islamist parties, were transformed into alarming protests against General Musharraf and America.

In Islamabad, Mr Bush said he had come to see if General Musharraf was as committed as before to bringing "terrorists to justice". "And he is," he concluded. Pakistan says it has 80,000 soldiers deployed across the remote, rugged and lawless Afghan border region, where many believe Osama bin Laden to be hiding. But this week has seen a bitter row with the Afghan government. It complained that Pakistan was not doing enough to stop militants from mounting cross-border attacks. General Musharraf furiously made exactly the same accusation in reverse.

So Mr Bush's visit, instead of celebrating Pakistan's staunch friendship and military help, highlighted its ambiguous role in the "war against terrorism". Just before Mr Bush arrived, a bomb attack on the American consulate in Karachi killed four people. During the president's stay, Pakistan's army was fighting one of its biggest battles yet, in which more than 140 people were killed, against pro-Taliban fighters in the tribal area of North Waziristan, next to Afghanistan.

For America, which says it wants to spread democracy, it is an embarrassment that General Musharraf remains army chief, and has only ever won rigged elections and referendums. So this week the Americans talked about the importance of free and fair elections being held when they are due, in 2007. But the leaders of the two main secular opposition parties remain in exile. The opposition, including even the Islamist parties, say they have had enough of General Musharraf, and are campaigning for a caretaker government to oversee proper elections.

The general himself is also facing a dangerous insurgency in Baluchistan, one of Pakistan's four provinces, and looks rather isolated. Mr Bush, however, offered little help. He made it clear that he would not do much to push India to make concessions on the general's great foreign-policy endeavour: the search for a just settlement of the dispute over Kashmir. From Pakistan's perspective, the peace process with India already looks as though it has stalled. If, as seems increasingly likely, a Pakistan-based group is blamed for the bombings in Varanasi this week (see article), it may now go into reverse.

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Thailand

Now what?

Mar 9th 2006 | BANGKOK
From The Economist print edition

Thaksin is outfoxing his foes

AFP

Not everyone wants Thaksin to go

IT WAS billed as the “final showdown”. If Thaksin Shinawatra, Thailand's prime minister, had not resigned by the start of an opposition rally in central Bangkok on Sunday March 5th, protesters would begin marching through the streets every day, bringing the capital to a halt, until he quit. The initial rally was impressive, with around 60,000 taking part, from middle-aged professionals to the orange-robed Buddhist monks of the “Dharma Army” of Chamlong Srimuang, an ascetic ex-general who has turned against Mr Thaksin.

Late in the evening, the protesters decanted from the park where they had gathered, to march on the prime minister's office. Chokchuang Chutinaton, a local doctor marching with his wife, explained that the demonstrators had many reasons for wanting rid of Mr Thaksin. For some it is outrage at the recent sale of his family's telecoms and media empire, Shin Corp, to Singapore's government, or the Thaksin clan's use of a legal loophole to avoid tax on the nearly $2 billion the deal netted. For others it is the prime minister's suppression of free speech, of which Dr Chokchuang has direct experience. He claims that Mr Thaksin's officials banned a meeting he had called at the medical association to discuss flaws in the government's flagship “30-baht health plan”, which provides medical treatments for the equivalent of only 77 cents.

Colourful and loud as the opposition's rally was, it paled by comparison with the 150,000-plus crowd that Mr Thaksin drew to a demonstration in his support, at the same location, two days earlier. (He paid them to turn up, grumbled the opposition.) And when the protest leaders called a further rally on Monday night, it drew far smaller numbers, obliging them to think up other ways to put pressure on the prime minister. These will include a call for strikes at public utilities. The final showdown, it seems, has yet to arrive.

So far, Mr Thaksin is outfoxing his opponents. He insists he has a democratic mandate to govern, which he will renew in an election he has called for April 2nd, despite an opposition boycott. But he is also going out of his way to sound reasonable. At his rally he promised to form a “neutral” panel to draw up constitutional reforms—one of the opposition's main demands—and to call a further election once these are passed. He also pledged to quit if his Thai Rak Thai party gets less than half of the votes cast next month. Meanwhile, he is doing his utmost to reinforce his still-strong support among the mass of voters, this week unveiling a 10 billion baht spending package, ranging from putting computers in classrooms to compensating victims of Thailand's 1973 uprising.

Despite fears that the bloody scenes of the country's 1973 and 1992 revolts (against military, not civilian governments) could be repeated, the protests have so far been peaceful—and not especially disruptive. In the late 1980s, South Korea's government caved in to pro-democracy protests only when it saw white-collar professionals deserting their jobs to join the street marches. Rallying in the park on a pleasant Sunday afternoon is one thing, but it remains to be seen if Bangkok's middle classes really are angry enough with Mr Thaksin to give up a day's pay to join a demo.

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Australia

Ten years, and still planning to go on

Mar 9th 2006 | SYDNEY
From The Economist print edition

John Howard contemplates "the ever-receding finishing line"

Get article background

WHEN he was sworn in as Australia's prime minister on March 11th 1996, John Howard probably had no idea that he would still be in office ten years on. Indeed, he came close to losing his next election, two years later. Since then, however, his electoral popularity has climbed to the point where he has never seemed more in control nor, at the age of 66, more determined to plough on. As his government celebrates his triumph, Mr Howard brushes aside questions about retirement by insisting that he will stay as long as his conservative Liberal Party wants him. This means that he is likely to contest a fifth election, due in late 2007. And another win would put him in sight of equalling the achievement of Sir Robert Menzies, Australia's longest-serving prime minister (a total of 18 years), the Liberal Party's founder and Mr Howard's hero.

How has this come about? Mr Howard is hardly the most charismatic of leaders. Nor is he a man with particularly fresh ideas. The main ideas he stands for—open markets and a deregulated economy—were put in place by the Labor government that ruled for 13 years before him. Those years were disastrous for Mr Howard and his party. "The party was broke," recalls Ron Walker, a former Liberal treasurer, and the man in charge of the forthcoming (formerly British) Commonwealth Games in Melbourne. "We were an absolute mess. Frankly we hated each other and we never thought we'd win an election again."

Mr Howard proceeded to win four elections in a row. Luck played a big part, in the form of an economy that was starting to grow as the result of earlier reforms, and has never stopped growing since. But Mr Howard's singular achievement has been to manage that growth carefully, in a way that has delivered Australia its lowest unemployment and inflation for 30 years, and its longest period of prosperity since the post-war Menzies era. The government's coffers are bulging with company tax revenues, on profits earned largely from China's demand for Australia's minerals. A succession of budget surpluses has enabled Mr Howard to shower money on voters at election times.

An opinion poll coinciding with his tenth anniversary in power suggests that Mr Howard's political strength derives overwhelmingly from his economic management. Of people who identified the economy as Australia's most important issue, 83% approved Mr Howard's handling of it. As Australians feel richer, they also seem prepared to accept more questionable aspects of his record. In the same poll, half thought Australia had become a "meaner" country under Mr Howard, two-thirds disapproved of his squeezing public health and education spending and 58% believed sending troops to fight in Iraq was not in Australia's interests.

Like most ten-year-old governments, Mr Howard's is starting to look a little frazzled. It has been hurt by allegations at a public inquiry that it knew about kickbacks paid to Iraq's government in 2002 by a company selling Australian wheat, at a time when Mr Howard was girding for war against Saddam Hussein. But Mr Howard himself seems unthreatened by any of this, and the opposition Labor Party is embroiled in yet another brawl about its own leadership. Politics, Mr Howard mused this month, is like an "ever-receding finishing line". That is bad news for Peter Costello, his long-standing treasurer, who has never made any secret of his desire to succeed his boss. But it could be rather good news for the Liberal Party.

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Timor-Leste

Free but hungry

Mar 9th 2006
From The Economist print edition

Destitution in the world's youngest country

Get article background

LIFE has only become more wretched for the 1m inhabitants of Timor-Leste (formerly East Timor) since it achieved full independence from Indonesia in 2002. The country was born the poorest in South-East Asia: and its economy has shrivelled further as the United Nations' peacekeeping operations have wound down, reducing demand for everything from hotel rooms to transport. It is set to shrink yet further after the mandate of UNOTIL, the UN office in the country, expires in May.

The pity is that the country can afford to do much better. A report published this week by the UN Development Programme shows that revenues from offshore oil and gas fields could reduce poverty dramatically—if the government spent the revenue wisely.

The UNDP sets the poverty line for Timor-Leste at 55 American cents a day. Around 40% of the population has less than this, so hunger is widespread. Only half of rural households have drinking-water on tap, and only a tenth have electricity. With health clinics few and far between, almost one in ten babies die before their first birthday.

Timor-Leste's population is small, at about 1m people. So relieving the worst of the poverty should, in theory, be cheap. The UNDP calculates that it would cost $18m a year for everyone below the 55-cent poverty line to be brought up to it. Even achieving the UN's Millennium Goals for relieving want (including better education and health) by 2015 would cost Timor-Leste $203m a year at most. This, too, should be affordable given the aid on offer and the growing oil and gas income. The country receives energy revenues of around $158m a year, and their sustainability has been underpinned by a recent deal with Australia to divide the proceeds from a big gas field in the sea between the two countries.

However, the government has so far spent most of its money in Dili, the capital. Only about a fifth of state-provided goods and services go to rural areas, where most people live and where poverty is concentrated. People in the rural areas urgently need micro-credit and training to improve and diversify their crops, as well as better sanitation and roads. Unless this changes, the Timorese will remain, as the UNDP puts it, politically free but chained by poverty.

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Nuclear diplomacy and Iran

The world wants Iran to stop

Mar 9th 2006
From The Economist print edition

At last, Iran's nuclear programme is to be referred to the UN Security Council. But then what?

IF THE barrage of threats and recriminations it fired off this week is any measure, Iran's nuclear defiance can only strengthen when the UN Security Council takes up its case. That could be as early as next week. Yet the volume and pitch of Iran's displeasure—threatening “harm and pain”, particularly to America, if Iran itself starts feeling the squeeze—is also a measure of its failure to convince not only hated America, but also the Europeans and its erstwhile allies Russia and China that, despite two decades of lies and cover-ups, its nuclear intentions are as peaceful as it claims.

But if Iran's UN-avoiding diplomacy has failed, it is not clear that the Security Council will do any better than others in crimping the regime's nuclear ambitions. Britain, France and Germany had tried for two years without success to broker an end to Iran's troubling plans to enrich uranium and make plutonium (to make electricity, said Iran; for eventual bomb-making is the growing suspicion). Russia has lately done no better. Iran used a month's grace offered in February by the 35-nation board of the International Atomic Energy Agency (IAEA), supposedly to seek an end to the crisis, to step up its enrichment work instead. When the board met again this week, neither camp was giving an inch.

Iran's “final offer”—to allow Russia to do most of its planned enriching for it for a time, so long as it was free to play around with some of its own enrichment machines too—got short shrift. The IAEA's director-general, Mohamed ElBaradei, had seemed initially to back the idea, if only to prevent Iran moving from working a handful of centrifuges to working hundreds, as it is threatening to do. Yet, after a wobbly week, Russia, America, the Europeans and China all ended up firmly agreeing that there can be no deal until Iran suspends all its uranium tinkering, as the IAEA's board has repeatedly requested.

The problem with giving even limited enrichment work the world's blessing is that it would let Iran hone skills that would be just as useful in a weapons programme. But does it have one?

No one knows for sure, though IAEA inspectors have their suspicions. They have long pressed Iran about faster, more efficient centrifuge machines that they believe it may have imported from the black-market network run by Pakistan's former nuclear hero, Abdul Qadeer Khan. They still have questions, too, about military links to Iran's nuclear programme, about still unexplained traces of uranium, about documents that Iran admits to having but not using which describe ways of shaping uranium into spheres for bomb-making, and about purported design work on missile cones, possibly to accommodate a nuclear warhead.

Technical quibbles, shrugs Iran. This week it called the judgment that it had broken its nuclear safeguards, and the IAEA inspectors' reluctance to declare its nuclear programme peaceful, the “biggest blunder in the agency's

history”. Iran seems determined to face its critics down.

That could take the dispute into dangerous territory. America's vice-president, Dick Cheney, told Iran this week to expect “meaningful consequences” from the Security Council for its failure to end its dangerous nuclear activities. “We will not allow Iran to have a nuclear weapon,” said Mr Cheney, bluntly.

He was later echoed by Israel's defence minister. Israel worries that, while it could take even a determined Iran several years to build a usable weapon, it could have mastered one of the most tricky bomb-making skills—linking its centrifuge machines in cascades to enrich uranium in sufficient quantity and quality for a weapon—before the year is out.

Tick tock

So the diplomatic clock is running. But pressure on Iran from the Security Council is likely to build only slowly. First the council's president will issue a statement, taking Iran to task for its defiance. A month or two later, a formal resolution could be adopted, setting Iran a deadline to comply with the IAEA's requests. America and the Europeans would want that to be adopted under Chapter 7 of the UN charter, making suspension of enrichment and co-operation with inspections compulsory. But Russia and China may balk.

And if Iran still digs its heels in? Subsequent resolutions could involve graduated sanctions, ones carefully targeted, say diplomats, at the Iranian regime, not at its people. Meanwhile, all sides insist that the door to negotiations remains ajar. But Iran shows no sign of downing its nuclear tools and walking through it.

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Libya

Change is in the air but happens slowly on the ground

Mar 9th 2006 | TRIPOLI
From The Economist print edition

Under its still-eccentric leader, could Libya ever loosen up?

AP

Still playing by the (green) book

THREE years ago, Libya stunned the world. Its famously erratic leader, Muammar Qaddafi, announced a series of dramatic policy reversals. Bullied and beguiled by the British and American intelligence services, he gave up research into chemical and nuclear weapons, paid generous compensation to the relatives of passengers in an American airliner blown up over Lockerbie in 1988, and championed economic reform. Liberalisation was the key to prosperity, he declared in one speech, and stable institutions were vital for Libya's credibility in the world.

Mr Qaddafi has delivered on many of these scores. Not only did he scrap an extensive and secret nuclear-weapons programme, he squealed on its shady suppliers. His intelligence services, long better-known for skulduggery, became useful allies in the global campaign against radical Islamist groups. They lightened their hand at home a little, too, most recently by freeing some 130 of the country's 500 or so political prisoners, most of them Islamists. From 2003 until his removal this week, a respected American-trained economist, Shukri Ghanem strove, as prime minister, to shift policy towards free trade, privatisation and greater openness.

As a result of all this, shoppers in Tripoli, the capital, no longer queue for rations in state-owned stores, but choose what they like from well-stocked private markets. Since the end of UN sanctions, imposed in 1992 over the Lockerbie affair, they can fly abroad on holiday. They can even visit the United States, now that diplomatic ties have been partially restored after a 23-year break.

Americans are swarming the other way. Along with a clutch of congressmen, oilmen have been sniffing around a country whose huge energy resources remain largely unexploited. President Bush has boosted trade prospects by unblocking export credits. The Libyan police have bought Ford cars. European businessmen are coming in too. Italians are selling helicopters. France was poised this week to sign a deal to co-operate over nuclear power for civil purposes.

Yet despite having accumulated a foreign-exchange hoard worth $45 billion on annual oil sales now running at $20 billion, Libya has much the same drab, shambolic air as when diplomatic isolation, trade sanctions and centrally planned socialism prevailed. With 5.7m people, it has just one world-class hotel and only 20 cashpoint machines. No road signs, even in Arabic, show the way to Leptis Magna, a ruined Roman seaport that is but one of many ancient sites whose scale and magnificence point to a past more glorious than the present. “I met a guy who spent 15 years abroad, and he said he recognised the same potholes as when he left,” chuckles a Tripoli taxi driver, snarled in one of the rubbish-strewn capital's daily jams.

Money in, muddle out

State wages, the main income for two-thirds of the workforce, have been frozen since 1981. They average $3,000 a year, in a country with a purported GDP per head (at purchasing-power parity) of $12,000. Subsidies make up part of the shortfall: water is sold for 5% of what it costs to pipe it, petrol at 11 cents a litre, and 40% of Libyans don't bother to pay for their state-supplied electricity at all. But the meagre wages crimp disposable incomes and kill incentives to work harder. “My father never got a raise in 30 years,” claims a café waiter. “Now he's retired, he gets the same pension as his former salary.”

Huddles of Egyptian and black African labourers lurk at roadsides, hoping for clients who pay $10 a day. Yet while some 2m foreigners toil here, a fifth of the native workforce is jobless. Underemployment is an even bigger problem. A top official has reckoned that the state would function better if it shed two-thirds of its payroll.

This lack of activity hampers even the crucial energy sector. Oil production is now 1.7m barrels a day, little more than half the peak reached a year after Mr Qaddafi seized power, in 1969. The plan is to crank this up to 3m within

ten years. Perfectly possible, say oil experts, except that not enough is being invested to maintain old fields, and decisions on the new ones are being taken too slowly.

Recent bidding rounds have attracted lucrative offers from scores of foreign firms, not surprising since Libyan oil tends to be high-grade and cheap to produce, and only a quarter of the country has been explored. But some firms are still haggling over details of contracts signed five years ago. In spite of huge gas reserves, Libya's power plants mostly run on diesel fuel.

In fact, it is hard to identify any institution that works well, aside from the ubiquitous security services, which have handily blocked at least a dozen coup attempts. The peculiar structure of the state lends itself to bumbling. Officials declare that their form of government is unique, reflecting the theory of direct but non-representative democracy expressed in Mr Qaddafi's 120-page “Green Book”. Every citizen is expected to join in taking decisions via “popular committees” at local, regional and national level, with powers over such things as business and building permits. But these compete with a raft of other bodies, such as “revolutionary committees” and multiple shadowy security agencies.

An annual general congress of people's committees is meant to exercise oversight. Among other things, it hires and fires both the prime minister and his cabinet, as Mr Ghanem has just found to his cost. But this proto-parliament meets for only a week a year, issuing abrupt decrees that reflect its underlying role as a sort of trade union representing entrenched bureaucratic interests. Favouritism towards Mr Qaddafi's own family, clan and tribe also complicates things. Given that laws and policies must negotiate this thicket, it is no surprise that so few get made, let alone carried out.

There are darker stories, too, of rampant corruption and other abuses. A well-known case is that of five Bulgarian nurses and a Palestinian doctor sentenced to death on the monstrous charge of deliberately injecting hundreds of children with the HIV virus. They have now been reprieved, and appear likely to be freed under a complicated face-saving deal. Hundreds of Libyan dissidents have got less foreign attention, and remain in prison or exile. Last month, police in Benghazi killed a dozen protesters whose march against cartoons mocking the Prophet (an issue deliberately stoked by inflammatory coverage in the state press) turned into a riot targeting government property. Draconian laws still bar Libyans from speaking openly with foreigners, criticising the leader or setting up political parties. All foreign publications are effectively banned. But the isolation that lasted for two decades has begun to crack. Satellite dishes and the internet open windows on the world. Mr Qaddafi's second-eldest son, Seif-ul-Islam, provides a further impetus for change. Among other liberalising moves, he has hired a team of international consultants, led by Michael Porter, an economist from America's Harvard University, to detect symptoms and suggest cures. The group's hard-hitting preliminary report, out last month, got an encouragingly warm welcome.

Yet reform remains an uphill battle. It struck a new obstacle this week, when the just-concluded people's congress not only replaced Mr Ghanem with his more timid deputy but also elevated a team of grey apparatchiks to other ministries. Mr Ghanem may be happier, however, in his new post as energy boss. Even Mr Qaddafi, with all his dangerous capriciousness, must know it is only because of oil that Libya has been able to afford decades of damaging social experimentation.

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The UN and food

Help the hungry more efficiently

Mar 9th 2006 | ROME
From The Economist print edition

Reuters

Africa's all too common sight

The UN turns to new methods of finance to get food faster to the hungry

TWO years ago, the UN's Rome-based Food and Agriculture Organisation (FAO) appealed for $9m to spray locust larvae in the Sahel, the vast zone that runs just south of the Sahara desert, from the Atlantic in the west to the Horn of Africa in the east. The money never came. Or not enough. The larvae became locusts. The locusts swarmed. By the summer, the FAO needed $100m to undo the damage.

For the UN's emergency-relief co-ordinator, Jan Egeland, a Norwegian, the tale starkly illustrates why the world body must change the way it raises cash. In an effort to get things moving, his ponderously named Office for the Co-ordination of Humanitarian Affairs (OCHA) is setting up a much expanded Central Emergency Response Fund (CERF).

The UN hopes that this new fund will enable it to respond to emergencies that fail to grab the attention—and dollars—of donor countries. Last October, OCHA listed ten “forgotten and neglected emergencies” in Africa, from Guinea to Somalia. CERF is also meant to help the UN to get aid to disaster areas before—not after—cash is raised. Delays in funding have led not just to the loss of lives and livelihoods but also to much higher costs in the end.

All this makes sense. Britain's aid minister, Hilary Benn, is calling for the new fund to be used at once to head off the latest crisis in the Horn of Africa, where 20m people may soon be starving. But despite widespread agreement on the need for more predictable, less capricious financing of the UN's humanitarian operations, some experts doubt whether CERF is the answer. Its cash will go only to UN agencies which, in many cases, simply hand over part of it to non-governmental organisations. At present, NGOs implement at least half of all humanitarian responses. One of them, Save the Children, says that NGOs should be able to apply directly for cash; it fears the new fund could create an extra layer of bureaucracy, separating them from other international donors.

Doubts at the UN's World Food Programme (WFP), which operates separately from the FAO (the former deals with emergencies, the latter with long-term development), are more basic: officials question whether CERF can be made to work because, they say, it ignores the critical issue of political will. “There are no ‘forgotten emergencies’”, says a senior WFP man, Jean-Jacques Graisse. “Only emergencies that donors choose not to fund.” Reasons can include distaste for the politics of the stricken country's government, a conviction that the beneficiary state could fund its own emergency operations, or a belief that the donors' aid will be squandered.

The WFP believes multilateral organisations ignore such preferences—or prejudices—at their peril because donors may react by withholding future funds. Its own in-house Immediate Response Account, meant to stand at $70m, now holds only $28m, because of donors' reluctance to top up a fund over which they have little control. The aim of the officials charged with operating CERF is to have a fund with no strings attached.

Some UN insiders suspect that the WFP's officials in Rome fear that their own outfit's funding may dip. “Since food is generally the best-funded part of appeals, they are worried that money that could go to them will go to CERF instead,” said one. But even OCHA's officials in New York admit the WFP people have a point about political control, especially in respect of the United States. They have so far received pledges to CERF of barely a third of the proposed total of $500m. They say some donors have agreed to automatic replenishment, accepting that in doing so they are losing control over where the money goes. But they do not expect a cent from the world's richest nation, which hates giving funds that are not precisely earmarked.

How, then, to ensure predictable funding while respecting political sensibilities? One idea that has been floating around for a while is that since the WFP effectively insures vulnerable states against food crises, it should reinsure itself by buying put options from reinsurers with funds supplied by donor states. That way, it would know in advance that it could count on the necessary funds, while donors choose which states they help to insure. This week the WFP finally awarded the first such contract for disaster reinsurance to AXA Re as a pilot plan for contingency funding in case of extreme drought during this year's harvest season in Ethiopia. It already has pledges from two countries to foot the cost of the world's first “disaster derivative”. One of them is the United States.

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German reform

The slow walk upstairs

Mar 9th 2006 | BERLIN
From The Economist print edition

Angela Merkel's reforms are continuing, but they risk being too little and too late

AH, THE relief after Herculean labours. After more than two years of stop-and-go negotiations, Germany's political leaders agreed this week on new legislation to free their country from the “joint decision-making trap” of its federal system. The new plan seems likely to secure the two-thirds majority in both houses of parliament that is needed for any amendments to Germany's Basic Law.

Reform of the federal structure may sound monumentally dull, but it is the biggest achievement so far of Angela Merkel's “grand coalition” with the Social Democrats. It marks not only the Christian Democratic chancellor's 100th day in office but also the start of Germany's third big effort to bring about structural reform. Yet those hoping that Germany may now shift into higher gear when it comes to other measures may be disappointed.

Scepticism is called for by anything termed “a step in the right direction”. The new federalism plan does go some way towards disentangling Germany's two main layers of government, at federal and state level. At present the states can collectively block more than 60% of federal legislation, causing political constipation, particularly when the opposition controls the Bundesrat, Germany's upper house, which represents the states.

In order to cut this to some 35-40%, the states and the federal government have done some horse-trading. The states are ceding many blocking powers, but in return for new ones from the federal level, particularly in higher education, the penal system and civil-service law. This deal should let the government be quicker on its feet, says Thomas Fischer of the Bertelsmann Foundation, a think-tank. But it may go less far in practice, because the states still have a say if federal laws require them to spend a lot of money.

In some areas the new system could even make changes harder, most notably in environmental law. States will now be able to pass their own legislation, even if it differs from federal law. Critics worry that the result will be chaos, with businesses having to comply with many different environmental regulations. Similarly, giving states more say over higher education may not be the best way to push Germany's struggling universities back into the top league.

In any case, the overhaul falls well short of a comprehensive modernisation, because it postpones changes in the “financial constitution” that decides how taxes are divvied up between the federal government and the 16 states. Nor is merging smaller states so they can compete on an equal footing with bigger ones on the agenda. On past experience, neither of these changes may happen, because losers will usually block them.

Still, the new system should make it a bit easier for Ms Merkel to push through legislation. Yet whether she will be more successful than her Social Democratic predecessor, Gerhard Schröder, will depend on other imponderables, such as her popularity, the dynamics of her coalition and the strength of the economy.

After a disappointing election result, which forced her to form a coalition with the Social Democrats, Ms Merkel's hand was admittedly weak. But she has played it brilliantly so far, cutting a good figure internationally while calming things at home by taking on a role in tune with her sober self: that of an anti-Schröder. Whereas her predecessor often staged impressive political theatre with scant effect, the new chancellor has opted to underpromise and overdeliver.

This has become the mantra of Ms Merkel's reform method. She quickly abandoned her ambitious election programme to advocate “small steps”, which she thinks will bring more progress than great leaps. Without making a big fuss, the coalition has already cut some subsidies, such as for homebuyers. It has adopted a €25 billion ($30 billion) spending programme to boost the economy. And it will start to push the retirement age up to 67 earlier than previously planned.

This new rationality and slower pace seem to be what most Germans want. Ms Merkel has become the most popular post-war chancellor, with an approval rating of 80%. Indeed, her popularity could undermine the coalition. The Social Democrats have dropped to 27% in polls. If they lose the March 26th election in Rhineland-Palatinate, the only big state that still has a Social Democratic premier, both parties may start to have second thoughts about the grand coalition: the Social Democrats because they are losing votes, the Christian Democrats because they may be tempted to call a new federal election.

The big question is whether Ms Merkel will accelerate reform after March's state elections. The press is irritable, partly because journalists see the need for bigger reforms, but also because there has been no exciting political story for months (except for the two German spies in Baghdad who allegedly helped the Americans with military intelligence and are now the subject of a parliamentary inquiry).

Ms Merkel may not pay attention to any such criticism. She will no doubt look for a few bones to throw the press to chew on. But the government will continue to take its time over any big new reforms. Before the summer break, a new energy policy and a change in health-care finance are on the agenda. Later, the government plans to tackle long-term unemployment and corporate-tax reform. Yet such a methodical approach guarantees neither that the reforms will go far enough nor that they will yield results quickly.

Nor can Ms Merkel hope for a boost from Germany's staging of the World Cup this summer, which is becoming an embarrassing tale of leaking stadiums and ticket-allocation mishaps. This week critics were gunning for Jürgen Klinsmann, Germany's national football coach. Once hailed as the saviour of German football, he was savaged when the team lost dismally against Italy last week. There is even speculation that he may have to resign before the tournament.

In typical German fashion, Mr Klinsmann is not being criticised for being a bad coach, but rather for insisting on living in California and simply jetting in for matches, a habit that some say is weakening his team. It would perhaps be more appropriate if Germany's entire football establishment were to indulge in some self-criticism. The truth is that it could take years for German football to catch up with the rest of the world's—just as it may take years for German reforms to get the country back on track.

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Dutch politics

Left back

Mar 9th 2006 | ROTTERDAM
From The Economist print edition

The Labour Party returns from the wilderness

THE revolution that erupted in the Netherlands four years ago may have ended this week where it began: in Rotterdam's City Hall. On March 7th, the voters in the local elections ousted the city's Liveable Rotterdam party, which in March 2002 catapulted its chief figurehead, Pim Fortuyn, a flashy populist, onto the national stage. Mr Fortuyn rode a wave of dissatisfaction over immigration, Islam and the elitism of the ruling Labour Party, only to be assassinated days before Labour lost the general election that May. His legacy of populism and anti-immigrant views has been a force in politics ever since, the more so after an Islamic extremist murdered Theo van Gogh, a film-maker, in Amsterdam in November 2004.

Yet despite this legacy, it was the Labour Party that rebounded this week. Not only did it sweep away Mr Fortuyn's old party in Rotterdam; in local elections all round the country, it beat the Christian Democrats and Liberals, the two main parties in the national government. So embarrassing was the defeat that the leader of the Liberals, Jozias van Aartsen, stepped down.

The presence of specific local parties makes it hard to see what these results mean for the general election due next year. But the voters are clearly turning left. It is unemployment, poverty, housing and bad traffic that now top their concerns, according to a poll on election day. Immigration and security, the two hot-button issues of the past four years or so, have dropped out of the top five.

This shift partly reflects painful reforms in pensions and health care that are hitting Dutch wallets. But there is also long-simmering dissatisfaction with the government's economic record, which has seen poverty and unemployment rising even as the traditionally generous social safety-net is unpicked. The Labour Party even seems to have won backing on immigration: in the big cities, the government's anti-immigration policies and its polarising rhetoric lost votes. In Amsterdam, the Labour-led local government won around a 40% majority. According to polls, 80% of Dutch voters of immigrant origin voted Labour.

The comeback of the left may not herald a return to its old ways—all parties have taken on parts of Mr Fortuyn's populist agenda on safety and immigration. The landslide victory in the municipal elections may also prove a mixed blessing for the Labour leader, Wouter Bos, who will now be treated as the inevitable successor to Jan Peter Balkenende, the Christian Democratic prime minister. Boring, neat and socially responsible may be how Dutch voters want their politics again. Mr Bos will be closely scrutinised on all three counts.

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Italy's election

Seeking divine help

Mar 9th 2006 | ROME
From The Economist print edition

Foreign policy may not decide Italy's election, but the Vatican just might

THE trick with Italian foreign policy has always been to strike a balance between Europeanism and Atlanticism; between the voters' deep-felt commitment to European unity and their feelings for a country, the United States, that freed them from Nazi occupation, shielded them from Soviet encroachment and has also offered a new life to millions of their compatriots. Until 2003, this balance was quite easy to strike. Being a fervent European did not rule out being a loyal ally of America. But the war in Iraq created a starker choice. Just how stark is becoming clearer in the campaign for Italy's general election next month.

The prime minister, Silvio Berlusconi, has been George Bush's closest ally in Europe after Britain's Tony Blair. He may have chided the Americans over Guantánamo, and even expressed doubts about the wisdom of the war, but this was always from the standpoint of somebody who is fundamentally sympathetic to the Bush administration's world view. His misgivings did not stop him from sending the biggest contingent of coalition forces after those of Britain and America.

At the beginning of March, Mr Berlusconi duly got his reward, when he was given the rare honour of addressing Congress. His visit to Washington received blanket coverage on his own television channels—to such an extent that his centre-left opponents protested, unsuccessfully, to Italy's broadcasting authority.

The outlook of the centre-left, led by a former European Commission president, Romano Prodi, could hardly be more different. Its election programme refers to “Europe” 99 times but to the “United States” only twice. Indeed, it appears to see the superpower as a nuisance, arguing, for example, that “to tackle the problems arising from the world's unipolar orientation, we must aim for an autonomous European defence [capability], even if always linked to the Atlantic Alliance, which is changing profoundly.”

Even so, Marta Dassu, director of Aspen Italia, a think-tank, says it is inconceivable that the mild-mannered Mr Prodi would prove an anti-American firebrand once in office. The Italian centre-left has learnt, notably from the experience of José Luis Rodríguez Zapatero in Spain, that there is more to lose than to gain from provoking the Americans. A Prodi government is more likely to model its foreign policy on Angela Merkel's in Germany. Crucially, notes Ms Dassu, “withdrawal from Iraq is finished as a point of real debate”.

This was a matter of life and death in more ways than one. By offering Spain's voters the option of early withdrawal, the Spanish Socialists may unwittingly have given al-Qaeda an incentive to try to influence Spain's 2004 general election. The terrorists seized it with devastating effects when they bombed trains in Madrid days before the vote. Mr Prodi and his allies have dodged that trap by loudly demanding withdrawal while quietly agreeing it should be done in consultation with the Iraqi authorities—a position no different from the government's.

Indeed, it could be argued that the interests of al-Qaeda might now be better served by the return to office of such people as the Northern League's Roberto Calderoli, a former minister whose anti-Islamic outbursts last month sparked a riot in Libya, stirred by Islamic extremists, in which 14 people died. The “theo-con” streak on the Italian right is more pronounced than in, say, Germany or Spain. Conservative Roman Catholics such as Marcello Pera, a member of Mr Berlusconi's Forza Italia party who is speaker of the Senate, are big on defending Europe's Christian roots.

So is Pope Benedict XVI, with whom Mr Pera once wrote a book on the subject. This week, the centre-right was boosted when it was reported (and not denied) that the pontiff intended to welcome Mr Berlusconi to the Vatican ten days before polling day. After an outcry, the prime minister said he would not be going. He would, in any case, have been just one member of a delegation. But an impression was left that the pope favoured Mr Berlusconi.

That could prove invaluable. Polls consistently give the centre-left a 4-5% lead over the centre-right. But they also suggest that some 24-30% of voters remain undecided, and that a disproportionate number are practising Catholics. As so often in the past, the smallest state of all could yet weigh heaviest on Italy's politics.

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Spain and the Basques

Cries and whispers

Mar 9th 2006 | MADRID
From The Economist print edition

Forecasts of an ETA ceasefire may yet prove premature

Reuters

Not altogether black and white in the Basque country

IT IS the eternal Spanish rumour. But this time it may really come true. Several Spanish newspapers have confidently declared that ETA, the Basque terrorist group, is poised to call a ceasefire, bringing to an end 38 years of violence that has claimed over 800 lives. The prime minister, José Luis Rodríguez Zapatero, is among those who seem to think that something may happen. Spain is close to “the beginning of the end” of ETA, he declared last month. The talk is of a ceasefire by Easter.

Mr Zapatero has the backing of the Spanish parliament to open talks with ETA if it shows a “clear will” to give up violence. He also, however, has a problem. The opposition People's Party refuses to sanction any negotiations with ETA or anybody who represents it. It says a weakened ETA, which has killed nobody for over two years, must be forced to surrender unconditionally. “It should be asphyxiated,” sums up the party spokesman, Gabriel Elorriaga.

Traditionally, government and opposition have walked in step when confronting ETA. But this cross-party front is now in tatters, and that could stymie attempts to create a peace process. As other countries have found, any such process will be complex and long—so a People's Party government might, one day, have to take it on. “I don't think one party can do it alone,” says Kepa Aulestia, a Basque commentator.

There is no sign of the parties patching up their differences. Instead, the arguing is getting nastier. The People's Party is being “vile” and “cowardly”, says the Socialist Party secretary, José Blanco. The Socialists are “spitting” in the faces of terrorist victims, retorts the People's Party's parliamentary spokesman, Eduardo Zaplana. Both sides use ETA's victims, who are also divided on what should happen next, as pawns in their political war.

Each party blames the other for the split. The People's Party claims that Mr Zapatero has broken the consensus and is trying to drag it somewhere it cannot go. The government points to the peace process in Northern Ireland, in which Britain's Conservative and Labour Parties both played their part. Mr Zapatero claims he was a loyal opposition leader who backed the policies of the former People's Party prime minister, José María Aznar. Now he wants the favour returned.

Could Mr Zapatero go ahead without the People's Party? He seems to think that he can, so long as ETA persuades most Spaniards that it is ready to give up the fight once and for all. He will seek legitimacy for whatever he does in parliament, where the People's Party looks increasingly lonely in its opposition.

The unknown quantity in the calculation is ETA itself. So far, its reply to the ceasefire rumours has been to plant more bombs—four more were found near roads this week. Is this just a last-minute effort to exert pressure before declaring a ceasefire? Old hands remember that previous rumours of talks with ETA saw a similar strategy of

“corpses on the table”. Yet, as the Basque Socialist leader, Patxi López, told *El Mundo* last week, “one single death in an ETA attack would bring this peace process to an end.”

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Education in France

Private preferences

Mar 9th 2006 | PARIS
From The Economist print edition

The French school system is more class-ridden than it pretends

THE right to a good, free state school is part of France's republican folklore, the guarantor of its secular meritocracy. So new figures this week, based on the 2005 school-leaving exam (the *baccalauréat* or *bac*), may come as a surprise. Of the top 29 schools, all but one—the Lycée Henri IV on Paris's left bank—are private.

The ranking, carried out by *Le Figaro*, took all lycées (secondary schools) with a 100% pass rate in the three main academic streams. This list was then compared with expected results, based on the socio-economic background of pupils: the results revealed the startlingly superior performance of private schools. Interestingly, central Paris does not monopolise the top places. At the pinnacle is the Lycée Epin, in the capital's suburbs. Others include the Lycée de Marcq, in Lille, and the Lycée Ozar Hatorah in Toulouse.

Despite the popular myth of a decent state education for all, many middle-class parents choose private schools. Some 14% of primary pupils attend a private school, and the figure for lycées is over 20%. Admittedly, French private schools bear little resemblance to, say, British ones, not least because they do not compel parents to remortgage their houses to pay the fees. As the state pays teachers' salaries at schools “under contract” with the education ministry, fees are usually well under €3,000 ($3,600) a year. Moreover, some parents choose private schools for a religious instruction that is forbidden in the secular state system. Many, like the Lycée de Marcq, are Catholic; some, like the Lycée Ozar Hatorah, are Jewish.

Nonetheless, the popularity of private schools points to a growing dissatisfaction with the state's offering, which is under assault from other quarters too. Nicolas Sarkozy, the interior minister, recently caused controversy by floating the idea of putting police officers inside rough schools, in response to rising violence. A schoolteacher near Paris was knifed several times by one of her pupils in December.

Mr Sarkozy has also blasted the system for not promoting social mobility, another cornerstone of French republicanism. The proportion of pupils passing the *bac* has risen from 25% in 1980 to 62% in 2004, but this has not opened up the top universities. The share of working-class children going to France's *grandes écoles* (elite higher-education colleges) is lower than in the 1950s, says Mr Sarkozy. “For a century, free secular republican schooling has proudly ensured equal opportunity, permitting thousands of children from modest families to obtain secondary and higher education,” he said last month. “But today it has become inegalitarian.”

Above all, as the *bac* has spread, those without it have become marginalised. As Patrick Fauconnier points out in a recent book on French education's failings, these days you need the *bac* to be a supermarket cashier. Yet every year 160,000 pupils leave school without it. Most have no qualifications, and many are functionally illiterate. The penalty in France is severe, says Eric Charbonnier, of the OECD: the difference in the unemployment rate of those with and without the diploma is far above the OECD average.

What can be done? Mr Fauconnier suggests less abstract teaching, less rote-learning, and a system less built around failure. Richard Descoings, head of Sciences-Po, a *grande école*, wants to create a *lycée d'excellence* in one of Paris's grim *banlieues*. Mr Sarkozy wants to give schools more freedom to experiment and specialise, to pay good teachers more, and to introduce more sport. All fine stuff; but the difficulty is France's formidable, centrally employed, 1m-strong teaching body. It equates decentralisation and diversity with an assault on republican uniformity—even though that means more in theory than in reality.

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Chechnya

A thug in charge

Mar 9th 2006 | MOSCOW
From The Economist print edition

Chechnya gets a new prime minister

Reuters

Kadyrov gets a grip

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THE rubble of Grozny, Chechnya's obliterated capital, is decorated with giant posters of Ramzan Kadyrov being made a “Hero of Russia” by Vladimir Putin. On March 4th, Mr Kadyrov, who via his *kadyrovtsy* militia has ruled much of the region since his father Akhmad, then president, was blown up in May 2004, became Chechnya's prime minister.

Mr Kadyrov has in fact been doing the job since November, when his predecessor was injured in a car crash. The new prime minister is also the main instrument of Russia's policy of “Chechenisation”—outsourcing the fight against separatists to local Chechens (though Russian troops are still dying in Chechnya as well). The Kremlin's contract with Mr Kadyrov is an extreme form of its bargain with many regional leaders: in return for elementary loyalty, they are able to do as they see fit. In Chechnya, that means impunity for the *kadyrovtsy* to abduct, torture and kill.

The only rival to Mr Kadyrov's influence in Chechnya is Shamil Basayev, a mega-terrorist. And Mr Kadyrov's rise is not over. He already has de facto power, and control of cash coming from Moscow, supposedly for reconstruction. But in October, when he turns 30—the minimum age set by the constitution—he will probably want to be president too. Mr Putin may well oblige. Alu Alkhanov, the current president, may be hoping to fall victim to a non-fatal accident.

The big question is how much elementary loyalty Mr Kadyrov will continue to give to Moscow. He has been dabbling in *sharia*-inspired edicts, including restrictions on gambling and alcohol, and has advocated polygamy. In the recent cartoon wars, he wanted to throw out the Danish Refugee Council, which provides food to more than 150,000 Chechens, though he backed down under Kremlin pressure. It is not clear if this Islamist streak is a bid to appeal to the militants' supporters, or to assert some independence from Moscow. Mr Kadyrov should be wary: even heroes can outlive their usefulness, and they often meet a hero's end.

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Charlemagne

Energetic debate

Mar 9th 2006
From The Economist print edition

The European Union wants a new energy policy. Should it have one?

NO SOONER has energy become Europe's hottest topic—barely a week goes by without somebody trying to create a national energy champion somewhere—than, lo and behold, up pops the European Commission with a sparky new energy policy. As a rule of thumb, it is best to assume that the EU over-regulates everything, so any expansion of its role or powers should be resisted. But the energy market, in which the commission is proposing, in a green (consultative) paper published this week, to extend its influence, may just be an exception.

Not, however, for the reasons that have put energy on the front pages. Attempts to marry utilities in France, Germany and Spain may be dubious or sensible business propositions, but they are matters for the competition authorities, not for energy policymakers. Energy prices may be high; Europe's dependence on imported energy may rise (to 70% of consumption, from 50% now); and its ageing power stations, which were just about adequate in times of abundant cheap oil, may require tonnes of money to modernise. But high prices do not warrant an EU policy response (there is, fortunately, no European oil policy). Nor does past underinvestment, which is surely the responsibility of companies, whether private or state-owned. It is true that there may be political reasons why European countries might want to club together to face Russia, which is their main gas supplier, but even that does not require heavy intervention from Brussels.

Indeed, none of today's big concerns about energy would seem to justify a new policy of the kind proposed by the commission, which includes encouraging new links (“interconnections”) between national electricity grids, setting up stockpiles of gas and perhaps creating a European energy regulator. What would justify some of this is the presence in the energy business of two public goods: benefits to people as a whole that are not being realised either by national governments or by markets.

For a decade, the commission has concentrated on liberalising national energy markets. It has been reasonably successful in getting countries to privatise state-owned utilities; most gas and electricity is now supplied by private firms. It has been less successful in reducing the monopoly power of those firms. A recent report by the competition directorate complained that monopoly suppliers still carve up markets, stifle competition and refuse new entrants access to gas and electricity grids. The commission, rightly, threatens to deploy EU competition laws.

But it would surely do that whether the policy questions were national or Europe-wide. Energy liberalisation is not the same as an EU energy policy; nor has it created an EU energy system. Europe has a string of national grids, with few bilateral links. Spain's market is almost entirely self-contained. So is the Baltic one. Less than 10% of European gas is sold across borders.

A genuine European market—ie, one electricity grid and a single spaghetti-plate of gas pipelines—would enable the entire EU-wide network to be run more efficiently. This is the first of those public goods. Every power system needs spare capacity to deal with surges, supply disruptions and so on. The larger the system, the smaller that spare

capacity. In the early 20th century, every town in Britain and France had its own power station. When countries then created national grids, they reaped big gains by cutting duplicate spare capacity.

Europe is now at a point where it could do something similar on a continental scale. If it connected its national grids together into a European one, argues Dieter Helm, an energy economist at Oxford University, that would lower the costs of operation by enough to transform the economics of the business. It would also increase trade across the system, lowering prices. That these benefits to society are not realised is largely because a single European grid would threaten the monopoly enjoyed by national energy champions. If there were any doubt about this, the sight of prime ministers queuing up to create more such champions should have laid them to rest. The potential gains from getting right the transition from national to regional grids is huge. But they cannot be secured without European intervention—meaning that the EU will have to develop things like a grid code and information exchanges about who has what capacity.

Exit, followed by a bear

The second public good is a secure supply—something which, as Russia rudely reminded everybody in January, can hardly be taken for granted. European gas stocks vary from about four months' supply in Austria to zero in Ireland, Sweden and Finland. You might say that this is their business: if countries do not want to pay insurance, they must face the consequences. But these consequences affect others: in a single European energy market, they will ripple right through the grid.

For this reason, countries have long run a sort of international oil stockpile: all members of the International Energy Agency maintain minimum reserves. The oil market is international but gas is regional, so it makes sense for a regional group to organise a similar insurance system of gas stocks. This does not have to be done by the EU, but it is an obvious institution to use.

The green paper proposes an energy policy more ambitious than these two public-good arguments by themselves would warrant. But why? What business have European officials trying to pick winners among energy technologies, for instance by encouraging biofuels or wind power? These should be a matter for markets, supported if necessary by taxes that make clearer the environmental costs of carbon emissions. In other areas a European policy might have been justified, but is not proposed. Nuclear safety worries everybody, but the commission steers clear of an EU-wide system of licensing and safety regulation.

The EU is rightly castigated for meddling in areas where it is not needed. How rare, almost refreshing, to find a business in which its intervention can, at least partly, be justified.

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National Health Service

Grappling with deficits

Mar 9th 2006
From The Economist print edition

The NHS is running out of time and excuses

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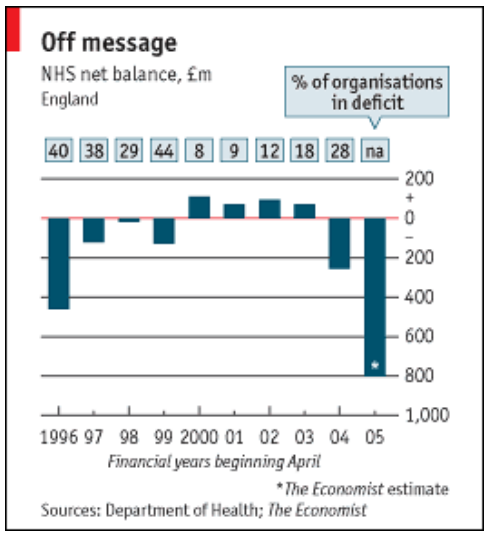

THE Royal Free in north London and the Princess Alexandra in Harlow, a few miles away from Stansted airport in Essex, are two very different hospitals. One is a teaching hospital with a turnover of £350m ($615m) a year. The other is a much smaller district hospital with an annual turnover of £120m. But they have a common problem. Each will be in the red in the financial year ending this March.

Across the National Health Service, a deficit of around £800m is now expected for 2005-06. This is far worse than the £250m shortfall in 2004-05, which followed a period of small surpluses (see chart). And it also marks a deterioration from the position in December, when a deficit of £620m was forecast for this year.

The inability of the NHS to balance its books despite unprecedented growth in its funding from taxpayers has caused trouble at the top. This week Sir Nigel Crisp, the 54-year-old chief executive of the NHS, said that he would be taking early retirement. Only a few months ago, his stock was so high that he had been in the running for the top job in the civil service.

Sir Nigel may be going but the hot political questions remain. Why should there be any deficit at all after seven years in which the NHS budget has doubled? And how are its finances to be put right?

At both the Royal Free and the Princess Alexandra, generous pay awards conceded by the government are contributing to their financial difficulties. John Gilham, chief executive at the Princess Alexandra, says that the funding it received for “agenda for change”, the pay deal for nurses and non-medical staff, has not fully covered the extra cost. This shortfall is contributing about a third of the hospital's £4.8m deficit this year.

This fits in with the overall picture in the NHS. According to the King's Fund, a health-policy think-tank, higher pay swallowed 50% of the cash increase for hospitals in 2005-06. The outlook for next year is not much better, with almost 40% of the planned boost to spending set to be absorbed by extra pay. The King's Fund also highlights other pressures on hospital budgets, such as greater spending on new drugs and compensation payments for clinical negligence.

Yet despite these big general cost pressures, the overall deficit is not spread uniformly across the health service. In December, when the deficit was forecast at £620m, a quarter of the 600 NHS organisations ran a gross deficit of £950m, with some offsetting surpluses elsewhere. In January, the government identified 62—the Royal Free and Princess Alexandra were not among them—which accounted for most of the gross deficit. Of these, 18 required urgent intervention, with managerial and financial “turnaround” teams sent in to help them.

This suggests that the NHS's financial malaise reflects a set of local difficulties caused by poor managerial performers rather than a more general problem. Understandably, this is an explanation that the government has tended to stress. What has happened, arguably, is that stricter accounting rules have exposed underlying financial problems that should have been tackled long ago.

The main response of hospitals to these financial strains must be to raise efficiency. At the Royal Free, where the deficit was heading for £15m, savings of £10m have been made in this financial year to bring it back to £5m. According to Peter Commins, the trust's finance director, these have been achieved mainly by shortening the time patients stay in hospital and by increasing the rate of day-case surgery.

At the Princess Alexandra, annual efficiency savings of 3% have been made in the past three years. Mr Gilham is introducing “lean management”—a technique that is common in industry—into the hospital. The main goal, he

says, is to reduce waste by getting things right the first time. That requires standardisation of treatment procedures wherever possible.

The pressure for higher efficiency will increase next month for all hospitals, whether or not they are having to deal with deficits. A new payments system is being introduced to sharpen competition among hospitals. It sets a national tariff for treatments, which means that hospitals are paid according to how busy they are rather than receiving budgets based on previous funding levels. At present, the new system is limited for most hospitals to elective care, such as cataract removals, but in April it will be extended to emergency work and outpatient visits.

Mr Commins says that the payments change will have a big effect, leading hospitals to shed services when they cannot provide them competitively. With so much riding on the new payments system, it was thus a grave embarrassment to the government when the tariff for 2006-07 had to be withdrawn for amendments towards the end of February. That should prove a temporary setback, but it was an unfortunate prelude to what will be a turbulent and crucial financial year.

The NHS is running out of excuses and time. The big boost to spending is due to end in spring 2008, when the NHS will have to adapt to much tighter budgets. Quite simply, the health service has got to work harder for its money. In some places, there will have to be closures of excess capacity. The deficits spell out in red ink the case for reform.

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Medical ethics

Embryonic conundrum

Mar 9th 2006
From The Economist print edition

The courts limit the right to IVF parenthood

FOR Natallie Evans, it was the last chance to have her own child. Diagnosed with pre-cancerous tumours in both ovaries in 2000, she had healthy eggs extracted for *in vitro* fertilisation (IVF) with her partner's sperm before her ovaries were removed. Half a dozen embryos were created and stored. Six months later, when the couple broke up, her partner asked that they be destroyed. But Ms Evans, claiming a fundamental right to a family life, demanded that she be allowed to use them. After a four-year legal battle, the European Court of Human Rights ruled against her this week.

Should there be a right to procreation, even if one of the parties withdraws consent? Or should there be an absolute right *not* to procreate? These are issues that governments and courts throughout the world are grappling with, as infertility rises in the West and so does IVF treatment. In Britain, more than 2m embryos have been created for IVF use over the past 15 years; the vast majority have been discarded.

Under Britain's 1990 Human Fertilisation and Embryology Act, either party has the right to withdraw consent to IVF treatment at any time up to the embryo's implantation in the mother's womb. The act also states that the child's welfare should always be considered, including his “need for a father”. But, in recognition of the anguish of women like Ms Evans, the government decided last year to review the act, inviting views in particular on whether the law should be changed to require the withdrawal of the consent of both parties before a stored embryo could be destroyed. It is to publish its proposals “in due course”.

There is no international consensus on these fraught issues. In Europe, most countries appear to follow Britain's line in allowing either party to withdraw consent at any stage up to implantation. But in Hungary, a woman has the right to proceed with IVF treatment even in the teeth of her partner's opposition. In Austria, Italy and Estonia, the man's consent can be revoked only up to fertilisation. And in Spain, a man can withdraw his consent only if he is married and living with the woman.

In the United States, IVF is not regulated at federal level and only a few states have passed laws regarding the fate of the embryos in the event of separation or death. So the courts are often left to decide, and their rulings have been contradictory.

In a much-noted ruling, Tennessee's Supreme Court decided in 1992 that “ordinarily, the party wishing to avoid procreation should prevail”—but only if the other party has “a reasonable possibility of achieving parenthood by means other than use of the pre-embryos”. The European Court has decided otherwise. Ms Evans argued that a woman undergoing IVF treatment should have the same absolute control over her foetus's fate as a woman who conceived without medical assistance. But the government argued that the embryo's implantation in the womb, not its creation in the test tube, defined the moment of conception.

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Immigration

Pick and mix

Mar 9th 2006
From The Economist print edition

The British government tries to calm fears over immigration

WHEN it comes to managing immigration, there is nothing like distance. Canada and New Zealand are a long way from the world's poor, and can therefore be finicky about who they let in. Britain is not so isolated, although (in this as in some other respects) it thinks it is. On March 7th, the government unveiled a system for screening would-be settlers that, it promises, will be the most precise in Europe.

The new immigration system will be more "structured"—which, in practice, means more rigid—than the current one. Foreigners wanting to settle in Britain will henceforth be placed in one of five tiers, depending on their skills and on whether or not they have a job offer or a university place. To get in, they will have to meet the criteria for each tier, measured in points.

Those who have a job offer in hand, and therefore fall into Tier 2, must, for example, amass 50 points before packing their bags. To them, a salary offer of between £18,000 ($31,000) and £19,500 will be worth 10 points, and a PhD another 15 points. They will earn more points if they fill a job where there is a labour shortage—as identified by a new "skills advisory body", which will draw up a list of such occupations twice a year. Yet more points will be awarded if their employer has been approved by the Home Office.

Aside from a likely increase in the number of bureaucrats, though, little will change. The new system will work so closely with the grain of current practice that it seems less a revolution than a mere re-labelling. The new system's Tier 1, for instance, duplicates a programme for highly skilled migrants that has been around for four years. Even the points system is largely a way of putting numbers on existing methods of judging would-be immigrants. As before, the system will be driven by the needs of employers. The only significant reform is a gradual phasing-out of two schemes that imported people to work in hotels and fields, and even this change is less radical than it at first appears. Most of the grunts who joined those schemes were central Europeans, who, since May 2004, have been free to work in Britain anyway.

If the new system will change so little, why has such fanfare attended its unveiling? The answer has to do with public perceptions. Opinion polls consistently show that Britons are concerned about immigration, which they think is running out of control. That view took hold in 2000, thanks to a surge in the number of people seeking asylum in Britain (see chart). Television images of Afghans pouring into the Channel Tunnel particularly offended the island mentality.

For the last three years, fewer would-be refugees have made it to Britain, thanks to better border security and the overthrowing of offensive regimes in Afghanistan and Iraq. The number of asylum-seekers is now the lowest it has been for more than a decade. Oddly, though, public disquiet is as strong as ever. Danny Sriskandarajah, of the Institute for Public Policy Research, believes that anger over a broken asylum system has mutated into mistrust of the immigration system as a whole. Woeful official underestimates in the past of the numbers of central Europeans likely to come to Britain after 2004 have not helped.

By subjecting the huddled masses to a more rigorous-seeming system, the government hopes to calm Britons' nerves. In the short term, it is likely to succeed: many newspapers welcomed this week's announcement. The trouble is that, as Damian Green, the Conservative Party's immigration spokesman, has noticed, a points-based system makes it easier to stem the immigrant tide: to reduce the flow, simply change the maths. The Tories would like to have a debate about immigrant numbers—something the government wants to avoid.

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Life after Rover

Soft landing at Longbridge

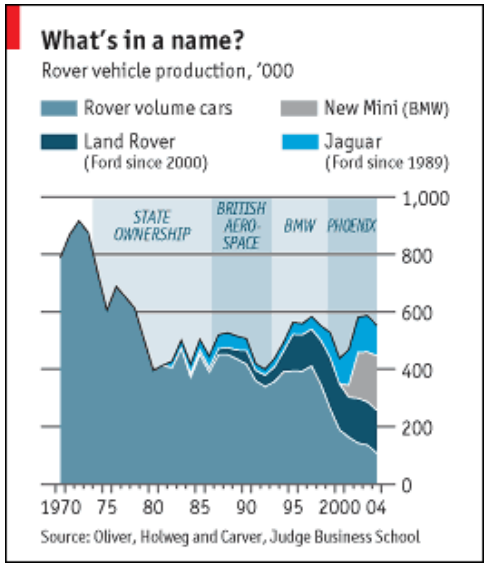
Mar 10th 2006
From The Economist print edition

Rover's demise may have been a blessing in disguise

MG ROVER'S factory at Longbridge, near Birmingham, was always more than a sprawling collection of assembly lines churning out vehicles. It reigned in the national psyche as the biggest and, finally, last British-owned mass-market carmaker. So its closure in April 2005, after half a century of bungled government interventions and bail-outs, was seen as the death of British manufacturing.

Almost a year on, however, a different picture is emerging. A report this week by a government-appointed task-force suggests that the aftermath is less bleak than was feared. Only 6,271 workers lost their jobs, including those at Rover's suppliers, compared with the 24,000 reckoned to be at risk when Rover was in desperate straits five years ago. And more than three-fifths have found new jobs elsewhere.

"The landing was relatively soft but only because the glide path was so long," says Nick Oliver, a professor at Cambridge University's Judge Business School. Car production at Rover had been falling for more than three decades (see chart), slumping recently from almost 175,000 cars in 2000 to 107,000 in 2004.



Suppliers, too, had time to adjust. They were shocked five years ago, when BMW, a German carmaker which had bought Rover from British Aerospace in 1994, broke up the company, sold off bits and gave the Longbridge plant to the Phoenix Consortium, which in turn presided over Rover's eventual demise. They set about finding new customers. When the end came, MG Rover accounted for less than 15% of its suppliers' sales, down from as much as 30% in 2000, according to David Malpass of Accelerate, an arm of Birmingham's Chamber of Commerce.

Buying time for the region to diversify greatly reduced the number of jobs lost, points out Richard Burden, the Labour MP for the area. The government is also spending some £250m ($436m) between 2000 and 2008 to support suppliers and workers, the National Audit Office reported this week. And the rest of the British motor industry is healthy, if under foreign management. Last year it exported a record 1.2m cars, and producers other than MG Rover raised output by 1.7%.

Graham Mulholland, managing director of EPM Technology, which makes carbon fibre parts for Formula 1 racing cars, is among those who are hiring. His payroll has grown from 13 to 140 in four years, including some people who worked for MG Rover. It may double again soon, he says.

About a quarter of the workers who found new jobs are earning more than they did at Rover, according to the task-force. Not all have been so lucky. Half of those now employed elsewhere are earning less, and more than a third of the original workforce—mainly the older and less-skilled—are still out of work. But many are getting training and help. The task-force reckons 80% of MG Rover's former employees will be back in work by summer.

In time, the collapse of MG Rover may even prove to be a boon to the region. Some think that loss-making Rover held back the local economy. It also tied up skilled workers who might have been more valuable elsewhere. And land at Longbridge will be used for a new technology park, where about 10,000 people may be employed where the car factory once stood, says Tim Haywood of St Modwen Properties, the firm developing the site.

It won't be the first big change that Longbridge has seen. In 1905, when Herbert Austin started making cars at what became Rover's main factory, it was on the site of an abandoned printing company. Few mourned its passing for long.

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Policing

Copping on

Mar 9th 2006
From The Economist print edition

A promising new approach to fighting crime by testing perceptions first

TEN years ago, the crime rate in England and Wales peaked. According to the British Crime Survey, which is the best indicator of long-term trends, an adult was less than half as likely to suffer a burglary or to have his car stolen last year than in 1995. Violent crimes fell by 43% in the same period. Oddly, though, this benign trend has gone largely unnoticed. A consistent majority of the very same people who now report so few crimes to surveyors continue to assert that crime is on the up.

This is a problem for the police, and not just because they want to be appreciated. If people believe that crime is out of control, they will be less inclined to report it, or to tell the police what they know. That means felons will be free to commit other crimes. Which, in turn, creates more despondency. And so on.

Martin Innes, a Surrey University sociologist, believes he knows what is going on. The problem, he says, is that the sorts of crimes that have demonstrably fallen over the past decade are not the ones that people worry about. There are crimes and then there are “signal” crimes, which people use as benchmarks to judge whether things are improving. Such nuisances as drug-dealing and unruly youths in the local shopping mall may or may not be more common these days; such things are hard to measure. What matters is that people think there is too much petty crime; that it upsets them more than the occasional mugging or even the odd murder; and that the police are not doing enough to stop it.

So far, so much like the “broken windows” theory, as popularised by Rudolph Giuliani, New York's mayor, in the early 1990s. As he saw it, the police should work to suppress all small crimes, lest decent folk lose confidence in the forces of law and order and cede the streets to ne'er-do-wells. That idea revived a police force that had been in the doldrums and led, in part, to a 72% drop in New York's homicide rate between 1990 and 1998.

Mr Innes and most British coppers reckon such a heavy-handed approach is alien to the culture of British policing (indeed, it turned out to work nowhere so well as in New York) and may even be wrong in principle. The broken-windows theory holds that all disorder creates crime. Denis O'Connor, a former chief constable of Surrey police who now inspects other forces, says it is not necessarily so. People in one neighbourhood may overlook nuisances that others view as harbingers of chaos. Crack down on one kind of petty crime, he says, and “you may be fixing the wrong window.”

In 2003, a handful of British police teams began to test a new method. They quizzed people about the things that upset them, focusing on the few individuals who seemed particularly well-informed about local affairs—those whom Mr O'Connor calls “the meerkats of the neighbourhood.” Having worked out what irked people, they tackled those problems.

The results were remarkable. A report by the Home Office released earlier this year shows that attitudes to the police improved in 13 of the 16 areas where the signal crimes approach was tested. Opinions about the crime rate generally became more optimistic. More surprising, perhaps, was the impact on criminal conduct. In six cases, it was possible to compare the effect of the new methods with a control area, where levels of disorder and police resources were similar. Crime fell relative to the control in all but one of those areas, with a particularly steep reduction in the number of burglaries.

One reason may be that, as the broken-windows theory suggests, law-abiding folk returned to the streets. Another possibility is that those who were targeted for petty crimes such as marijuana dealing were thereby deterred from more serious misdeeds. But a big cause of the crime drop seems to be that the police were able to draw on a hitherto overlooked pool of local wisdom. “There has been an orthodoxy in police culture that only criminals and their associates know much about crime,” says Mr Innes. When they began to knock on doors and ask people about their concerns, though, coppers were astonished to find residents who did things like note down the registration number of every car visiting a drug dealer.

The success of the signal crimes approach suggests that it could be rolled out across the country. Indeed, the ground is already being prepared. In part because there are now more of them, the police are moving away from rapid-response methods, where coppers wait for the phone to ring and then race out in their cars. As far as

possible, small teams of officers are allocated to individual wards.

The hitch is that, while more officers may be posted locally, they are still expected to serve national masters. The police find it difficult to heed local gripes when they are subjected to a barrage of priorities and crime-reduction targets. Another problem, says Neil Dodds, who polices a housing estate in Milton Keynes, north-west of London, is that local policing can actually increase crime—or the appearance of it—in the short term. As people warm up to the police, they begin to report more of the crimes that occur, thus pushing up the figures. That will not please the number-crunchers.

Mr Innes worries that a promising method of fighting crime will be compromised by central targets and watered down by police forces who try to pick and choose the bits they like. There may be more to this than academic pride. In New York, the broken-windows approach to policing gradually turned into the tougher and less discriminating “zero tolerance”. A couple of mistaken police shootings later, the policy was in tatters. The British innovation will not perish in a hail of bullets, but it may yet be done in by compromise and bureaucracy.

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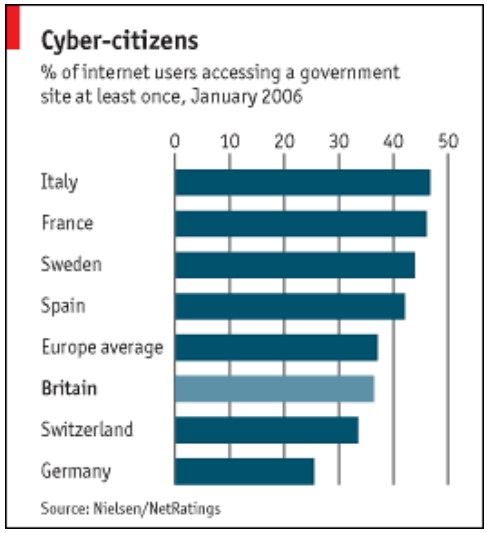
E-government

The world in a website

Mar 9th 2006
From The Economist print edition

How to build a virtual state



A LONG series of disasters involving government computer systems has made people question the wisdom of mixing dusty officialdom with shiny new technology. But such cynicism has not slowed the government down. This month will see an advertising campaign designed to get people to use Directgov, an official website launched in 2004 that aims to contain the whole of the British state in one place. Users can apply for a passport, buy a TV licence or read about everything from tax and health advice to how to avoid online dating scams.

The idea is to “build services around the citizen”—in other words, to make all the information about a particular topic available in one place rather than having it scattered across several different departments. Ultimately, the government hopes that people will use Directgov to conduct all their government business.

That would be more user-friendly than the mess that confronts digitally-minded citizens today. In 2000, Tony Blair promised to make all government services available online by 2005. Officials took that to mean that every government office needed a website. And so government on the internet mirrors government in the real world, with thousands of agencies, offices and departments served by thousands of websites (nobody knows exactly how many, although the official guess is over 2,500.) Many of these moulder away in obscurity—one site promoting world heritage sites in Britain managed only 77 visitors in a year.

That may explain Britain's e-phobia when it comes to officialdom. The country has a higher rate of broadband use than most of Europe, yet only 36% of the internet-using population visited one of these government websites in January, compared with 47% in Italy (see chart). A simplified structure (and a healthy dose of advertising), officials hope, will persuade Britons to perform more of their civic duties online.

But not everybody agrees. Helen Margetts, a professor at the Oxford Internet Institute, thinks that centralisation is misguided. She argues that most people use search engines to find information online, rather than starting from a central site and clicking on links. “It's much more important to make sure that your site appears high up in a list of Google results than to have everything in the same place,” she says.

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Tories and cities

Run out of town

Mar 9th 2006 | READING, BERKSHIRE
From The Economist print edition

Why the Conservatives will have to wait for urban regeneration

PA

Tory toffs take the urban air

HOW the Tories lost the cities is one of the strangest tales in politics. They know they must make a comeback there, for two reasons. It is hard to win a general election without taking some urban seats outside London. And cities have a lot of the social problems that voters want their government to fix. Unless they have a foothold in the cities, Conservatives lack first-hand information about what's going on in them and, as a result, can sound like astrologers to Labour's astronauts.

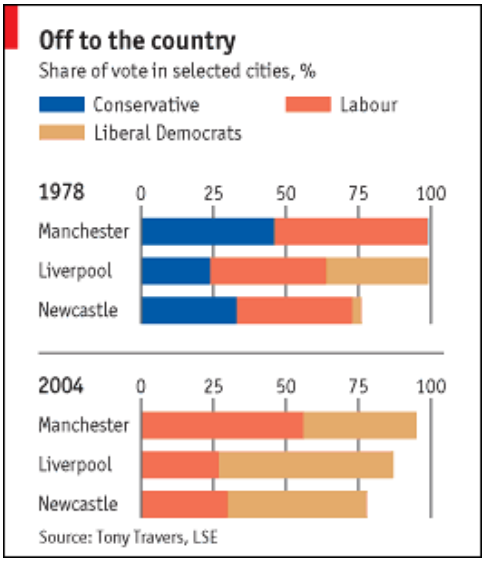
A third reason presented itself this week. According to a chunky report for the Office of the Deputy Prime Minister (ODPM), the population decline in cities is slowing, and city centres are filling up with professionals. That should make them a better hunting ground for the Tories.

To advertise the change in the party's focus from country and suburb to downtown, David Cameron, the Conservative leader, and Lord Heseltine, a former minister who challenged Margaret Thatcher for the Tory leadership, went to Liverpool on March 6th and announced that they were going to think about how to improve cities. Lord Heseltine has devoted more time recently to nurturing trees than Scousers, but back in 1981 he decamped to Liverpool after the Toxteth riots there and became the “Minister for Merseyside”.

Turning the party's urban fortunes around will be tough, given how spectacularly the Tories have collapsed in the big northern cities (see chart). “Liverpool,” Lady Thatcher noted in her memoirs, “has defeated better men than Michael Heseltine.” A more realistic starting point is in big towns like Reading, a Labour island in the middle of wealthy Tory Berkshire which, coincidentally, tops the ODPM's list of boomtowns. So how are the Tories doing there?

Surprisingly poorly, despite the town's location and prosperity. Reading has a big new shopping mall that is all escalators and ice cream parlours, and a further new development packed with restaurants. Just outside town sit the British headquarters of Oracle, Microsoft and BG. “This doesn't feel like classic Labour territory,” says Martin Salter, Labour MP for the town's western constituency.

The Tories did take the eastern part of Reading last year, though they were helped by having a weak Labour opponent. Voters from the leafy Wokingham corner of the constituency piled in too. But Reading's council is still dominated by Labour, which has 35 seats to the Tories' six.



This matters. All three parties have woken up to the fact that councils can be a route to Westminster. The Liberal Democrats, who reckon that once they have won a council majority a realistic shot at Parliament is only one election away, are adept at this. The Tories, for all their strength in local government, have a majority on only one city council, in Coventry.

Eric Ollerenshaw, a Tory councillor in Hackney who has been asked by Conservative central office to rebuild the party's organisation in the cities, hopes to take a short cut by creating lively city-wide parties from the shells of defunct little constituency associations. This is now being tried in Manchester and is on the way in Liverpool. If they succeed, the electoral rewards from attracting professionals, who are likely to vote and have little tribal loyalty to Labour, could be big. All they have to do is dislodge those pesky Lib Dems first.

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Bagehot

Tessa's not (yet) for burning

Mar 9th 2006
From The Economist print edition

Tony Blair deserves some of the blame for what Tessa Jowell is going through

A STRANGE thing happened this week. Just days ago it seemed certain that the ministerial career of Tessa Jowell, the culture secretary, was over. The ritual dance that ends with the offering up of the minister's head to propitiate the capricious media gods was well into its stride. But, as *The Economist* went to press, Ms Jowell's chances of keeping both head and job appeared at least better than even. If she does, not just the government but the political classes generally will celebrate a rare victory over what they regard as an over-mighty press.

Last weekend, for a second week in succession, Sunday newspapers devoted several forests of newsprint to dissecting the tangled business affairs of Ms Jowell's husband, David Mills. The wheeler-dealing corporate lawyer had become a target for magistrates in Italy in their pursuit of the country's prime minister, Silvio Berlusconi, as well as a political liability for his wife. The story was given new legs when the couple announced on March 4th that they were separating, after 27 years of marriage.

Almost immediately, there was speculation that perhaps this was a “separation of convenience”. Blinking through their crocodile tears for Ms Jowell's predicament, the Sunday papers went for her with everything the Italian prosecutors could give them.

To the original accusation—that Ms Jowell had breached the ministerial code of conduct by failing to declare what may or may not have been a gift of £350,000 ($615,000) to her husband, which may or may not have been from Mr Berlusconi for keeping him out of hot water—was added another. Mr Mills, it was alleged, had owned shares in a chain of pubs when Ms Jowell was a junior health minister debating smoking bans.

If Ms Jowell had known of this, she should have mentioned it to her senior civil servant. The following day, she responded that her husband had never owned the shares, a claim that has since been called into question by evidence from Italy that Mr Mills had held the shares through a trust in which he may have had a beneficial interest.

Whether Ms Jowell is guilty of something that requires her resignation depends on whether her claim that she was ignorant of the details of her husband's complicated business dealings is believable—and on whether ignorance is an adequate defence.

There are parallels with Geraldine Ferraro, America's Democratic vice-presidential candidate in 1984, who found herself tarred by the controversial business relationships of her husband, John Zaccaro. Her possible involvement in something murky contributed to the massive defeat of her party. Many people will think that Ms Jowell must have known more than she is letting on and that if she didn't, she should have.

Regardless of whether Ms Jowell has done anything wrong, she has been damaged by the picture that has emerged of the world her husband inhabited, one in which raising multiple mortgages to invest in hedge funds or earning large fees to set up exotic tax-avoidance schemes was perfectly normal. Not surprisingly, the newspapers thought she was toast. Even if nothing else emerged, they could rely on the old stand-by that the constant headlines were distracting her from doing her job.

This last assumption may be what saves her. When on March 6th the *Daily Mail* asked on its front page “How much more can Tessa take?”, the political community collectively bridled. Suddenly, Ms Jowell was seen as a victim—of misplaced trust in her husband and of a newspaper “witch-hunt”.

Ministerial colleagues such as Margaret Beckett, the environment secretary, declared that Ms Jowell had a positive duty to tough it out. The only dissenters were a sprinkling of Labour MPs, who transparently hoped to hurt the prime minister by attacking one of his most devoted colleagues.

Even the Tories appeared to have little stomach for bringing Ms Jowell down. When she surfaced in the House of Commons on March 6th to answer routine departmental questions, it proved an opportunity for the New Labour sisterhood to turn out in colourful force. She is liked by many MPs, who appreciate her regular appearances in the Commons tearooms, and also by parliamentary lobby correspondents, who find her friendly and approachable. By contrast, the serial resigners David Blunkett and Peter Mandelson had few political friends to call on when they needed them.

Tony's blind spot

Ms Jowell is not yet in the clear. If the Italians decide to prosecute her husband, there could be further revelations. However, with next week's crucial vote on the education bill and, a week later, attention switching to the budget, she should fade from the headlines. If she does survive, it will be largely because she is an unusually popular minister.

Tony Blair will be delighted to hang on to Ms Jowell, but he will have done little to help her. The mystery in all this is why Mr Blair has not taken the one step that would have some impact on the arbitrary power of the media to destroy political careers. This week, the Committee on Standards in Public Life reiterated its call three years ago for the appointment of an independent adviser on ministerial interests and a standing panel of three individuals to investigate charges of ministerial misconduct. This would replace the current, flawed system in which such inquiries are hurriedly carried out by the cabinet secretary on behalf of the prime minister.

Mr Blair has so far demurred, saying that only the prime minister can decide the fate of ministers. That, however, confuses a political judgment with the separate need to establish the facts. The alternative is leaving the latter entirely to the press. Newspapers have the energy and resources for the job, but they also have agendas of their own and an interest in exaggerating any wrongdoing. No wonder there is a loss of trust in public life.

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Redesigning the internet

Mar 9th 2006
From Economist.com

A discussion with Tom Standage, Technology Editor of *The Economist*

"The internet has been a hotbed of innovation because it's "dumb". The designers didn't presuppose how the internet would be used and that has made it extremely flexible. But what we are running into now are scaling and security problems, and some people are asking: if we were building the internet from scratch, what would be the ideal clean-slate design?"

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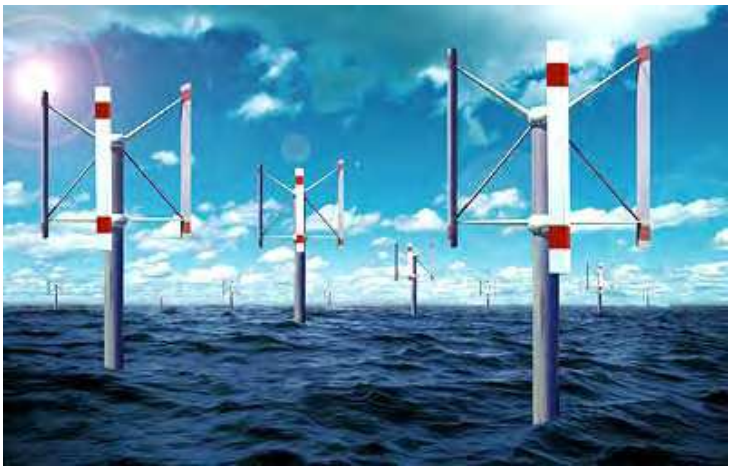
Turning wind power on its side

Mar 9th 2006
From The Economist print edition



Energy technology: Wind turbines that rotate about a vertical axis, rather than the usual horizontal one, could have a number of benefits

WIND turbines are springing up in all sorts of places around the world, from China to California, but most of them have the same basic design: the blades rotate about a horizontal axis, as in an old-fashioned windmill. Such turbines can generate electricity at a cost not much higher than non-renewable, fossil-fuel sources—provided the wind is blowing, that is. But if proponents of a rival design are to be believed, electricity can be generated from wind even more cheaply, using turbines that rotate about a vertical axis, like a playground roundabout.

TMA, a company based in Cheyenne, Wyoming, announced in November that its first vertical-axis wind turbine (VAWT) would soon be ready for commercial production. The TMA system has two sets of vertical blades. The two inner blades, each shaped like a half-cylinder, catch the wind and rotate about a central axis, while the three outer blades, shaped like aircraft wings, are fixed. The interaction between the two sets of blades causes a drop in pressure in front of the rotating blades' leading edges, which further increases the rate of rotation. TMA claims that its system harvests 43-45% of the wind's available energy; conventional propeller-style turbines, in contrast, have efficiencies of 25-40%.

In winds of more than 80kph (50mph), furthermore, the blades and gearboxes of conventional turbines cannot cope with the strain, and they have to be shut down. TMA says its vertical-axis design can still work even at wind speeds as high as 110kph, however. The ability to harvest high-speed winds is particularly valuable, since each doubling of wind speed results in an eightfold increase in available energy. TMA also claims that its design is quieter and less visually obtrusive than conventional turbines.

A British consortium, Eurowind Developments, which includes VT Group, a shipbuilding and engineering company, and Mott Macdonald, a consultancy, believes VAWTs could be the best design for giant offshore turbines. Such a turbine, with a capacity of ten megawatts, would be able to power around 10,000 homes. Today's largest horizontal-axis turbines produce around five megawatts, and are proving difficult to scale up. Each blade has to be more than 60 metres long, and the bigger the blade, the greater the stress it experiences as it turns: the blade's own weight compresses it at the top of the cycle and stretches it at the bottom. As a result, blades must be made and transported in one piece, which is expensive. Reinforcing the blade to enable it to withstand these forces further increases cost and reduces efficiency.

The blades of a VAWT, in contrast, do not have to undergo this repeated stretching and compression. Nor does their cross-section vary from top to bottom, which makes them cheaper to manufacture than windmill blades, the shape of which must be painstakingly engineered. VAWT blades can also be made in pieces and joined together on site. So vertical-axis designs should enable wind turbines to be scaled up more easily, resulting in cheaper electricity, even for VAWT designs of similar efficiency to conventional turbines. “If we can build a ten megawatt turbine for only slightly more than other companies build five megawatt turbines, then the efficiency question goes out of the window,” says Steven Peace of Eurowind.

Neither TMA nor Eurowind has yet proved the technology in commercial deployments, however, and the mainstream wind industry remains sceptical about the benefits of VAWTs, in large part because the idea is not new. Simple VAWTs, with a couple of sails pushed around by the wind, have been around for centuries, and were being used in Persia thousands of years ago. In 1922 a Finnish engineer, S. J. Savonius, improved on this primitive design, and devised a turbine based on two half-cylinder blades, as TMA uses. In 1931 a Frenchman, Georges Darrieus, patented a wind turbine that operates on an entirely different principle with two thin, curved blades fixed to a central axis, in a design often compared to an egg-beater.

Turbines based on the Savonius design are already used for small-scale generation in remote locations. Even large-scale VAWTs have been tried before. In the early 1990s the British government funded a trial in Carmarthen Bay in Wales, which culminated in the construction of a 500 kilowatt, 35-metre turbine. But it failed after six months because of a manufacturing fault, and the trial was wound up shortly afterwards. The project's final report concluded that VAWTs had no applications on land, but they should be reconsidered “if offshore wind energy becomes more attractive”.

That day has now come, so it might be time to give the technology another look. Nigel Crowe, director of the British Wind Energy Association, says the use of horizontal-axis turbines has as much to do with historical factors as technological merit. “Why do we use horizontal axis turbines? Why do we use VHS, not Betamax?” he asks. “They are the ones that got accepted first, and got established in the marketplace. The industry now is going through some major changes. Maybe the goalposts have moved a bit and maybe it is the right time to look again.” With plans afoot to build wind farms off the coast of Britain and elsewhere, the fortunes of the VAWT may be about to take a turn for the better.

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Hackers go home

Mar 9th 2006
From The Economist print edition

Consumer technology: Technological tinkering, or hacking, is not limited to computers. Cars, cameras and vacuum-cleaners can be hacked too

THE word “hacker” is widely misused. Among hackers themselves, it refers to someone who enjoys tinkering with technology, exploring its boundaries and getting it to do unexpected or unintended tricks, though in general use the word refers to individuals who break into computers for nefarious ends (for whom hackers prefer the terms “malicious hacker” or “cracker”). But a hacker is not necessarily bad and is not necessarily just someone who messes around with computers. Thomas Edison was arguably a hacker, back in the 19th century. Today's technological tinkerers, however, have a far wider range of household gizmos to play with and modify, from cars to cameras. Getting them to do new things, and not merely what the manufacturer had in mind, is an increasingly popular pastime. It even has its own magazine, *MAKE*, which is filled with projects for the technologically intrepid.

Car enthusiasts have a long tradition of modifying their vehicles to improve on the manufacturer's original specifications. As cars become as dependent on electronics as they are upon mechanics, the business of tweaking their performance has become ever more elaborate. Upgrades for various fuel-injection and ignition computers have been available for well over a decade, providing additional power—often at the expense of warranty cover and fuel efficiency—just by replacing a microchip or two in the engine compartment.

But such modifications are now passé. The latest twist comes from TurboXS of Gaithersburg, Maryland. Its DTEC boost controller uses a standard Nintendo Game Boy Advance SP handheld games console as its display and input device. The software comes on a standard game cartridge, and provides a variety of read-outs and diagnostic options. Wire up a few hardware sensors, and the games console becomes a tuning tool, allowing changes via the boost-controller hardware to the running engine configuration. And all of this was done without any help from Nintendo, notes Nathan Kofahl of TurboXS. It is a new, unintended use of the console—in short, a hack—that is, in turn, used to hack the car's engine.

Hybrid and electric vehicles have also attracted the attentions of hackers. After General Motors introduced the short-lived EV1 electric car in 1996, intrepid owners soon worked out how to connect handheld computers to its built-in diagnostic systems and observe what was going on with their vehicles. Armed with this knowledge, they could then change their driving behaviour to improve the car's range on a single charge. Today, attention is focused on the Toyota Prius, a hybrid-electric vehicle that uses battery power at low speeds (in stop-start traffic, for example) and a petrol engine at high speeds or on long journeys.

The problem, from the point of view of some drivers, is that the control system of the Prius, and the limited capacity of its nickel-metal hydride (NiMH) batteries, prevent it from being used as an all-electric vehicle, even on quite short journeys. So a number of Prius owners have hacked their vehicles, fitting them with larger lithium-ion battery packs that can be recharged from the mains and tweaking the battery-control system to extend the car's electric-only range. EDrive, a firm based in Monrovia, California, is about to launch just such an upgrade package for Prius owners, at a cost of around $12,000.

Closer to home, the ever more complex innards of consumer-electronics devices mean they are also ripe for

modification by hackers. The advent of the TiVo personal video recorder was significant in many ways: not only did it precipitate a dramatic shift in viewing habits, it was also one of the first consumer-electronics devices to be based upon Linux, the open-source operating system. Most users, of course, were happily unaware of this fact. But for the more technically minded, it made possible a wide variety of modifications, letting users make their TiVos work just the way they wanted.

Simple changes—different colours for the on-screen interface, installing a larger hard disk to increase recording capacity—quickly evolved into new software development that, for example, allowed the TiVo to be remotely controlled over the internet, enabling users to add a show to the device's recording schedule from work. This extensibility quickly gained the TiVo a passionate following, but also raised legal concerns. Not content to add features to the device, TiVo users soon worked out how to download programmes to watch them on their laptops, or transfer them to DVD. While TiVo made efforts to prevent this sort of thing, the ingenuity of its users prevailed and instructions have proliferated online.

Even when an electronic device is not based on Linux, it is usually not long before hackers get Linux running on it, which then makes tweaking much easier. The unofficial installation of Linux on Apple's iPod music-player, for instance, led to the discovery of some hardware secrets within it. Some iPods, it turned out, actually had the internal circuitry required to record high-quality audio, though this feature is usually unavailable. Other hacks include the ability to run games and display pictures, even on older iPods. Phillip Torrone of *MAKE* says this type of modification simply “unlocks the piece of hardware that you paid for.”

But in some cases, such hacks can undermine the manufacturer's business model. Consider games consoles, for example, which operate on a “razor and blades” principle. Consoles are often sold at a loss, but console-makers receive a licence fee of a few dollars for each game sold—so provided each customer buys enough games, the console-maker eventually makes money. When Microsoft launched its Xbox console in 2001, hackers raced to install Linux on it, which transformed it into a low-cost, high performance media-playback system. While this was a minority sport, anyone who did this without buying any games was, in effect, receiving a subsidy from Microsoft. Little wonder, then, that the new Xbox 360 console features significantly beefed-up security measures.

A second example is the low-cost “disposable” digital cameras sold by CVS, an American pharmacy chain. These cameras are designed to be used once and then returned to the shop, where, for a processing fee, the stored pictures or movies are returned to you on CD or DVD. The cameras are then reset and resold. Inevitably, however, hackers have figured out how to access and reuse the cameras themselves. (One even ended up being installed in the nose of a small rocket.) If enough people do this, the business model breaks down. Clever hacking by a few, in other words, could lead to higher prices for the many.

But some companies, at least, have chosen to embrace hackers. iRobot, the company behind the Roomba robot vacuum-cleaner, includes an external data connector in the device and has even documented how to use it. While most customers appreciate their Roombas for their autonomous cleaning skills, there is also a small minority of users who want to reprogram them. iRobot is one of the few firms to acknowledge and appreciate customers who like to tinker. After all, there are few manifestations of feedback as heartfelt as someone who is willing to spend their own time and effort to improve a product.

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Signs of the times

Mar 9th 2006
From The Economist print edition

Supermarketing

Advertising technology: Huge video screens that bombard people with ads while they shop offer an attractive new outlet for advertisers

WHEN asked why he robbed banks, Willie Sutton, a notorious thief, famously replied “Because that's where the money is.” A similar logic is now being applied by advertisers. With the advent of hundreds of television channels, the internet, and that particular scourge of the advertiser, the personal video recorder, consumers are harder to reach than ever. So where is the hottest place to put advertisements? In supermarkets—because that's where the shoppers are.

Hence the enthusiasm for “digital signage”, which is just a fancy name for flat-panel displays that show a constantly rotating series of advertisements, mixed with news and entertainment. The screens are placed in “high traffic” (in other words, busy) parts of shops, and the advertisements they show can be updated at will via satellite or internet links. This makes it possible to vary the advertisements shown depending on the time of day, season, or local factors such as demographics or weather.

This ability to reach consumers just as they are deliberating about which item to pick from the shelves—what the marketers at Procter & Gamble, a big consumer-goods firm, call “the first moment of truth”—has huge potential. According to Point of Purchase Advertising International, an independent trade association, more than 70% of purchasing decisions are made in shops. Most people, after all, write “beer” or “shampoo” on their shopping lists, rather than specifying particular brands. And so, helped along by the falling prices of fast internet links and large flat-screen displays, digital signage is being adopted by retailers and their suppliers around the world.

In America Wal-Mart, the world's biggest retailer, has constructed a “Wal-Mart TV” network that is connected to more than 2,500 stores. The network carries a sophisticated multi-channel offering: screens positioned in the best points around the store show advertising picked to suit individual departments, while other screens provide entertainment—interspersed with even more advertising—to customers standing in line at the tills. According to Premier Retail Networks (PRN), a firm based in San Francisco that operates Wal-Mart TV, the network has over 50m viewers a month, which exceeds the viewership of popular television shows such as “CSI”, “Lost” and “The Apprentice”.

In common with other digital-signage installations, Wal-Mart TV displays customised content that is often derived from standard television advertisements. Charlie Nooney, PRN's chief executive, says it makes sense for consumer-goods firms and retailers to recycle their costly television advertisements to reach a captive audience of shoppers who are, by definition, in the mood to buy things. “If I'm an advertiser and I can capture that person in store with a dynamic message about my product and the benefits of my product, it's a great win,” he says. It is certainly a great win for PRN and Wal-Mart, which charge advertisers on the network between $60,000 and $293,000 to show an advertisement for four weeks. Other retailers that have installed or tested digital-signage networks include Albertson's, Target and Kroger in America, and Tesco, Asda and Sainsbury's in Britain. In China, Carrefour has signed an installation deal with CGEN, a digital-signage company.

While advertisers warm to the idea, however, digital signage still has hurdles to overcome—so traditional television advertising is not obsolete just yet. For a start, the cost of installing and running a network means that retailers—a notoriously parsimonious bunch—must be convinced of the business case before going ahead with a chain-wide roll-out. Another problem, says Nikki Baird of Forrester, a consultancy, is the “store-multiplier effect”. Implementing any kind of new technology across thousands of stores in a retail chain quickly becomes very expensive. The expense of creating and managing fresh and effective content also poses a barrier to entry, she notes.

But for some advertisers, at least, digital signage is already taking its place in the media mix. Its ability to reach customers as they shop gives it an edge over traditional forms of advertising, such as television, radio and billboards. Ms Baird predicts further pilot schemes and the development of industry standards this year; 2007, she says, will be the year when digital signage really takes off. Those in the retail and advertising industries will be watching the new technology closely. They will be hoping that shoppers will do the same.

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Listening to the internet

Mar 9th 2006
From The Economist print edition

Internet trends: Companies are eavesdropping on online discussion forums to find out what their customers really think about them

ONE of the things that makes the internet so appealing is that for any subject, no matter how obscure, there is almost guaranteed to be at least one website, blog or discussion forum where people congregate to talk about it. Online discussion forums cover a huge range of topics: it is not just stereotypical geeky bickering about Macs versus PCs, or Windows versus Linux. Worried mothers compare the fat content of different brands of potato crisps; car enthusiasts discuss the merits of forthcoming models; fans of obscure bands swap trivia.

The internet's oldest discussion system, called Usenet, dates back to 1979 and can now be easily reached via Google, which also maintains archived discussions going back 25 years. More recently, web-based discussion boards, and the comments that can be appended to blogs, have become the most popular forums for online debate. Most of these discussions are of little interest except to their participants. But the direct, unfiltered, brutally honest nature of much online discussion is gold dust to big companies that want to spot trends, or find out what customers really think of them. As a result, many firms now monitor online chatter as an adjunct to more traditional forms of market research.

For example, ConAgra, an American food giant known for its Butterball turkeys and Healthy Choice ready meals, tracks discussion groups to keep abreast of new diet trends, such as Atkins and organic food. “These discussion groups are very useful to determine whether a trend is really a trend, or just a fad,” says Nick Mysore, ConAgra's director of strategy. “They also help you get a read on the marketplace quickly and cost effectively, and provide you with the ‘baseline hypothesis' that you can test further, using conventional market-research techniques.”

This sort of thing has been going on, in an informal way at least, for several years. Sometimes public-relations teams are asked to keep an eye on online discussions, and switched-on company executives visit forums to stay in touch with the public mood. But companies are now looking to do it in a more systematic way. Initially, this involved throwing lots of computing power at the problem. Accenture and IBM have each built computer systems that trawl the web in search of trends and insights. But the extensive use of jargon, abbreviations and obscure slang can make it hard for computers to figure out what people are saying.

So smaller specialist firms, such as Wavemetrix in Britain and Nielsen BuzzMetrics in America, are now using a combination of computers and human researchers. They track general discussions and try to spot trends early, by identifying the members of online communities who are most likely to influence other participants. BuzzMetrics does this kind of work on behalf of 100 of the world's biggest firms, including General Motors, Ford and Microsoft.

Such research has a number of weaknesses, not least the fact that it excludes non-internet users, so it is not about to replace telephone surveys and focus groups any time soon. But it also has many advantages, notably its high speed and low cost. Opinions appear on the web within minutes of an event. Convening a focus group or performing traditional market research to gauge the impact of a campaign, in contrast, might take weeks or even months.

The results can often be surprising. Wavemetrix, for example, carried out a study for a European mobile operator that was aware that its network was less reliable than those of its rivals. Online research, however, showed that the general public believed the opposite to be true. Other surprising findings arise because participants in discussion groups can say anything they like, whereas people answering a survey answer only the questions that researchers think to ask.

What of privacy? Max Kalehoff of BuzzMetrics insists that “openness and transparency are the most important things in our industry.” Even so, many companies are reluctant to discuss their activities in this area. Although firms track only public forums, they do not obtain the participants' formal consent, and many users may be disconcerted to learn that their conversations are being listened to. That said, people who post their thoughts online generally want them to be read. While the ethics of monitoring public discussion boards are a matter of debate, there is general agreement that the active abuse of forums—in particular, posting poorly disguised product

plugs—is unacceptable.

Occasionally, the monitoring of discussion groups itself becomes a topic of conversation. In one car forum, a discussion of BuzzMetrics' research for General Motors produced no objections—just disbelief that the carmaker could listen to their conversations and still produce such unappealing products. Consumers often moan that companies do not listen to them. Might the monitoring of discussion groups provide an answer to that problem? Discuss.

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Organs to order

Mar 9th 2006
From The Economist print edition

Biotechnology: Could the creation of replacement organs, grown to order for particular patients, be just around the corner?

TODAY there are around 90,000 patients in America registered and waiting for organ transplants. Macabre as it sounds, they are, in effect, waiting for a genetically suitable, organ-donating somebody within a few hundred miles to die, and provide a replacement for a terminally damaged heart, kidney, liver, pancreas or other organ. But even those patients lucky enough to receive a donor organ in time, and survive the transplant surgery, face more misery still. Some will reject the new organ, and will be put back on the waiting list; those who do not will spend the rest of their lives on drugs that are prone to cause side-effects and will suppress their immune systems, preventing rejection but leaving them susceptible to infections and other maladies.

Most patients, however, never get even that far. Although most Americans support organ donation, very few go through the complicated process of formally consenting to it. Of those that do, not all are able to donate, either because their organs are unsuitable or their families decide to overrule their wishes—which is allowed under American law.

So the idea of being able to create replacement organs from scratch, using a patient's own tissues—and hence preventing rejection—has considerable allure. Researchers including Robert Langer, of the Massachusetts Institute of Technology, and Anthony Atala, of the Wake Forest University Institute of Regenerative Medicine in Winston-Salem, North Carolina, are trying to do just that. Dr Atala, a pioneer in the field, is now working with Tengion, a biotech firm based in King of Prussia, Pennsylvania. It is one of several firms pursuing the idea of making organs to order, but seems to have made the most progress. Already, a handful of patients in America have been quietly fitted with new bladders made using Dr Atala's technology.

The approach is simple, but it has taken decades to refine. Healthy progenitor cells (the precursors to particular cell types) are extracted from the patient, isolated and multiplied in culture. They are then placed into a scaffolding structure, made of collagen, which is sculpted to resemble the required organ. This in turn is then placed into a soup of nutrients in an incubator, resembling an aquarium, that simulates the conditions found inside the human body. “Four to six weeks later, you have a ‘neo-bladder' that can then be placed into the patient,” says Dr Atala. The immune system senses nothing untoward, allowing the body to stimulate the remaining growth necessary for full functionality. The collagen scaffolding is gradually reabsorbed into the body.

The idea of building body parts on a scaffold made of collagen by using a patient's own cells is not new. Genzyme, a biotech firm based in Boston, makes a product called Carticel, for example, which allows cartilage to be cultured in the laboratory from a patient's own cells and then implanted into the patient's knee to repair cartilage defects. Since its introduction in 1997, it has been used to treat more than 10,000 patients.

But Tengion, which plans to put its neo-bladder into clinical trials later this year, has loftier ambitions. Furthermore, it has the funds to pursue them, having raised $40m in initial funding late last year. While there is a lot of research in the field—dating back to a series of animal studies, co-written by Dr Atala, which appeared in the journal *Nature Biotechnology* in 1999—no other commercial venture has yet got as far as developing a neo-bladder, let alone other, more complex organs.

The field is now moving fast. “Ten years ago, they said organs couldn't be built. Now the challenge is unravelling solid organs like the liver, pancreas, heart, and lungs,” writes Christopher Thomas Scott, a bioethicist at Stanford University, in his recent book, “Stem Cell Now” (Pi Press, 2005). While the prospects for organs to order seem promising, however, there is no guarantee that what works in animals will also work in humans. Patients, doctors and investors should not get their hopes up until trials of Tengion's neo-bladder demonstrate that the new technology really can hold water.

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Attack of the Eurogoogle

Mar 9th 2006
From The Economist print edition

Search technology: Can an ambitious new European search engine, backed by the governments of France and Germany, challenge Google?

“WE MUST take the offensive and muster a massive effort,” said Jacques Chirac, the president of France, who went on to warn of the dangers of losing the battle for “the power of tomorrow” in a speech made last April. Standing beside him was Gerhard Schröder, then chancellor of Germany. In response to the formidable challenges posed by America, Japan and the emerging powers of China, India and Brazil, the two men announced that they had decided to step up their co-operation in a technological programme of vital strategic importance. A new fighter jet, perhaps, or a satellite surveillance system? No, the two heads of state were endorsing a plan to build a Franco-German internet-search engine, to be called Quaero (Latin for “I seek”).

The project would, said Mr Chirac, be undertaken with the help of government funds “in the image of the magnificent success of Airbus”. In a series of further speeches over the past few months, he has warmed to his theme: “We must take up the global challenge of the American giants Yahoo! and Google”; “Culture is not merchandise and cannot be left to blind market forces”; “We must staunchly defend the world's cultural diversity against the looming threat of uniformity”; “Our power is at stake.”

In July Mr Chirac noted that while French research has traditionally been good, it “now needs encouraging”. The following month the French government, the main financier and developer of Quaero, duly created the Agency for Industrial Innovation (AII), based in Paris, largely to oversee the project. The AII received an initial endowment of €1.7 billion ($2 billion). Michel Lemonier, a senior administrator at the AII, refuses to discuss how much of the budget is being allocated to Quaero because, he jokes, the leaders of other AII-funded programmes would be “very jealous”. Quaero is expected to be finished before any of the other planned AII projects, and may be online before the year is out.

The magic of Quaero, say its supporters, will be in the ambitious capabilities of its tentacles. Today, internet searches are performed using keywords. Of course, search engines can retrieve image, audio and video files, in addition to text documents. But this is done by matching the user's keywords to a text description of the image, audio or video content. Quaero users will be able to search the internet with keywords in the usual way; but in addition, researchers at Quaero's public-private consortium, led by Thomson and France Telecom in France and Siemens and Deutsche Telekom in Germany, are developing technology that will allow users to perform searches using pictures and sounds as query terms. “It's beyond Google,” says Marie-Vincente Pasdeloup of Thomson.

Quaero will allow users to search using a “query image”, not just a group of keywords. In a process known as “image mining”, software that recognises shapes and colours will then retrieve still images and video clips that contain images similar to the query image. (The software is being supplied by LTU Technologies, a firm based in Paris, which already supplies the technology to law-enforcement agencies for use in sifting through surveillance footage.) When Quaero finds an image without a description that matches a properly labelled image, it will append the description from the labelled image to the unlabelled one. This technique, called “keyword propagation”, will enrich the web linguistically: image descriptions in French, for example, will spread as they are tacked on to similar images, so that those images can also be retrieved by users who type in French keywords.

Meanwhile, in Germany, researchers at the University of Karlsruhe are developing Quaero's voice-recognition and translation technology, with funding from the European Commission. The idea is that this software will find audio files—such as political speeches or radio broadcasts—and then automatically transcribe and translate them into a number of European languages. The original audio files can then be found using keyword searches. In addition, speaker-identification software will allow users (via computer microphones) to search the internet for audio clips recorded in their own voices, or those of other speakers.

These are stunningly ambitious goals, and some of the audio features may not be ready by the time Quaero is launched. Yet they show that Quaero is intended to be far more than just another would-be Google, but a leap forward in search-engine technology. “Google is so hegemonic that no one even wonders about other interfaces,” says François Bourdoncle, the chief executive of Exalead, a French search engine that has taken on the task of integrating these various technologies under the Quaero umbrella.

Even so, the most striking difference between Quaero and Google is not technological, but ideological. Quaero is a classic example of European state-funded industrial policy, while Google is the very embodiment of American free-

market techno-capitalism. The use of government funds to back Quaero has raised eyebrows, even among its supporters, who worry that it might fall foul of rules that prevent governments from using state aid to give favoured firms an unfair competitive advantage.

But so far no formal complaints against Quaero have materialised. The project is a public-private partnership, and the private firms involved are also committing considerable sums to it. The government funds, meanwhile, are being carefully distributed via a complex system of favourable loans, interest-free cash advances, forgivable loans and grants for pre-competitive research, all of which are allowed under international trade rules. The project is further protected by the fact that big public-research organisations, including France's National Centre for Scientific Research and Germany's RWTH-Aachen University, are also involved.

When Angela Merkel took over as German chancellor in November, there were rumblings that she might not match Mr Schröder's commitment to the project. In fact, her dedication to Quaero is even greater, says Jean-Philippe Touffut, the secretary-general of the Cournot Centre for Economic Studies in Paris, who co-ordinates collaboration between the project's French and German participants.

How will Google respond? Brad Fallon of SEO Research, a search-engine consultancy based in Atlanta, says Google has put the development of multimedia search technology into its “as-soon-as-possible” category, since it now offers only text-based searches. At the moment, however, “Quaero appears to have the edge,” he says. But when Google and the other big American search engines unveil their multimedia search features, they are likely to provide interfaces in foreign languages, just as they do today with text-based searches. So simply by existing, Quaero will make the cut-throat search-engine business even more competitive.

Google, of course, makes its money from advertising, and Quaero's backers hope that it too will produce substantial advertising revenues. But Quaero's chief aims are cultural and political, rather than commercial. Alexander Waibel, a research leader at the University of Karlsruhe who sits on Quaero's steering committee, offers an emotional justification too. “Europe wants to secure access that does not have to be channelled through American technology,” he says. And an official close to Mr Chirac adds that “the goal surpasses by far the industrial stakes.”

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March of the robolawyers

Mar 9th 2006
From The Economist print edition

Software: A new program uses game theory to produce fairer outcomes when dividing the property of divorcing couples

WHEN it comes to the difficult problem of deciding who gets to keep the holiday home, the dog and the Barry Manilow albums, divorcing couples now have somewhere new to turn. Researchers in Australia have developed a computer program that relies on a branch of mathematics known as game theory to produce a fairer outcome when dividing property. Instead of the traditional approach of dividing a couple's property in half, the system, called Family Winner, guides the couple through a series of trade-offs and compensation strategies. According to John Zeleznikow, a computer scientist at Victoria University in Melbourne, who developed the software with his colleague Emilia Bellucci, the results are fairer because both parties end up with what they value most.

The software was tested last year on 50 divorcing couples, with the outcomes evaluated by Victoria Legal Aid. Each party is given a limited number of points, which they are asked to allocate to the items of property they wish to keep. Through a multi-step process of modification, the parties are encouraged to give priority to the items they most value. The researchers found that, using the software, each party ended up with 70-80% of what they originally wanted, rather than the usual 50-50 split.

Applying game theory in this way is a welcome development in an area of law where parties are normally encouraged to be combative when going through the courts, says Richard Susskind, a law professor who is technology adviser to England's Lord Chief Justice. In the eyes of the law, this approach to conflict resolution would appear to be superior, he says, because it produces a more equitable outcome than the courts. But, he notes, it can be employed only if both parties consent to its use, which is unlikely in the most acrimonious cases. “The ones that perhaps need it the most may be the ones most resistant to using it,” he warns.

Dr Zeleznikow admits that despite the system's merits, divorcing couples do not necessarily always want what is fair. But, he says, the system is intended for use by couples seeking out-of-court mediation as they separate, rather than those already involved in legal battles. The software will be aimed at mediation services when it goes on sale later this year.

This is not Dr Zeleznikow's first venture into the field of robolawyer software. Indeed, for those determined to take their former spouses for everything they've got, he has already developed a different program, called SplitUp, which can encourage them to reconsider mediation. It uses techniques from the field of artificial intelligence to draw inferences based on past rulings in the Family Court of Australia. This allows parties to play out risky or aggressive courtroom strategies to see just how successful they might actually be, but without any of the risks. “By going for the jugular, disputants generally diminish their prospects of getting what they want,” says Dr Zeleznikow. SplitUp can help people realise this, and thus encourage them to give mediation another look.

Game theory can be applied to many other fields besides family law, notes Dr Zeleznikow. The availability of a purely rational approach to dividing property means that the same approach could be particularly suitable for resolving industrial disputes, he suggests. By forcing the parties to focus on what matters most to them, it could bypass the emotional and political elements of a dispute that so often inhibit progress.

Resolving disputes more efficiently through software is a laudable aim. But is there not a risk that it might trigger a legal arms race? After all, says Dr Susskind, if a system can be developed to inject fairness and rationality into divorce, then someone else could just as easily design a system that suggests more aggressive or Machiavellian strategies—to help clients take their exes to the cleaners.

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Dancing with Google's spiders

Mar 9th 2006
From The Economist print edition

Search engines: Google is engaged in an elaborate dance with firms determined to keep their websites high up in its rankings

THE industrious spider “bots” that crawl around the web on behalf of Google, the world's biggest search engine, evoke both fear and reverence. Late last year the bots swept through the world's web servers to scrutinise some 8 billion web pages and determine their new rankings in Google's search results. As Google tweaks its mighty ranking algorithms, and applies them to the constantly changing pages of the web, different sites shuffle up and down wildly in its search rankings, repeatedly gaining and losing ground. This operation, which takes place two or three times a year, is known as a “Google Dance”.

Like hurricanes, Google Dances are given names, such as Bourbon, Gilligan and Florida, often by commentators at a website called webmasterworld.com. Jagger, the two-week dance that began late last October, moved through servers in three waves, eliciting chatter in internet forums. “Been kicked off the face of the index by jagger1,” reads a typical entry. “Will try not to panic til after jagger3.”

All search engines test and implement new algorithms constantly, though not in such a dramatic fashion. Because achieving a high search ranking is crucial to success for many online businesses, a huge industry has sprung up devoted to the pursuit of website visibility. In 2005 worldwide spending on such “search-engine optimisation” (SEO), grew 125%, to $1.25 billion, according to SEMPO, a Boston-based trade association. It predicts spending will grow by 150% this year.

The Google Dance can rattle companies, since precipitous—but often temporary—falls down the pecking order are common. But Paul Aelen of Checkit, a large SEO firm based in the Netherlands, admits that algorithm updates are “very exciting” for SEO experts, who can then test an array of tricks to figure out what works, and what doesn't.

SEO firms boost their clients' online rankings by tinkering with their websites to enhance the characteristics that search engines consider positive. This involves techniques such as simplifying complicated page addresses, rewriting copy to produce single-theme pages with accurate titles, adding extra keywords to the invisible page descriptions (or “metatags”) read by indexing software, and putting product information stored in databases directly on to fixed pages, so that search engines' bots can read it.

The quest to understand how search engines rank websites has become an obsession for some. Web forums devoted to the topic hum with debate, and many SEO experts comb through patent applications to find out what new algorithms are in the pipeline. That ruse, however, is becoming less effective. Matt Cutts, a senior engineer at Google who is assailed with algorithm questions at industry conferences, says his firm, like its competitors, carefully controls access to its secrets. “A lot of our best ideas don't get filed as patents because patents eventually become public,” he says.

The best SEO firms can do wonders for a site's ranking. Lee Odden, the president of TopRank Online Marketing, a firm based in Minneapolis, Minnesota, says one of his clients stopped paying out $50,000 a month on pay-per-click advertising; instead, Pacific Security Capital, an investment bank based in Beaverton, Oregon, now spends a tenth of that figure on SEO and claims the top spot for some 50 keywords on several search engines.

The most powerful determinant of a web page's importance is the number of incoming referral links, which is regarded as a gauge of the site's popularity. Site optimisers solicit links from directory sites, swap links with prominent sites, and fish for links from bloggers by sending them press releases. But the influence of links begets abuse. Unethical methods, known as “black-hat SEO”, include renting links from popular or long-established sites (their links carry more weight). Some unscrupulous SEO outfits even exploit loopholes in website-management tools to place hidden links on prestigious sites, such as those maintained by universities.

The “link farm” technique involves spamming the web with automatically generated bogus blogs, known as splogs, that link to a website to give it a boost. David Sifry, founder of Technorati, a blog search-engine based in San Francisco, estimates that 10,000 link-bearing splogs sporting content copied (or “scraped”) from legitimate sites

are put online every day to fool the spider bots. “Cloaking” involves presenting content to indexing bots that is different from that which web surfers who visit the site will actually see. “Keyword stuffing” involves hiding popular search terms on a page—using, say, white text on a white background—to attract visitors.

Mahesh Murthy, the founder of Pinstorm, a company based in Mumbai that is one of India's biggest SEO firms, says that the Google Dance and other similar algorithm updates are constantly getting better at detecting and “shutting out” cheaters. This can mean relegation to the bottom of the rankings, or even removal altogether. Last month Google accused BMW, a carmaker, of using cloaking, and briefly removed its website from its index. But the financial stakes are so high that SEO firms will continue to look for new ways to boost their client's rankings. This is one dance, it seems, that will not be going out of fashion any time soon.

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Flight of fancy?

Mar 9th 2006
From The Economist print edition

Energy technology: Following the success of hybrid cars, which run on both electricity and fossil fuels, attention is turning to hybrid planes

HYBRID cars—powered by a mixture of novel electrical and conventional fossil-fuel technologies—are flourishing. So what about hybrid aircraft? The idea is not as far-fetched as it might sound. As with cars, the high cost of aviation fuel, not to mention concerns about aircraft noise and emissions, has created a clamour for greater energy efficiency. At the same time, aircraft are becoming ever more demanding of electrical power, and not just for avionics and entertainment systems. Boeing's new Dreamliner, due to enter service in 2008, will use electrical components in place of some pneumatic and hydraulic systems. This will improve performance and durability, and may also reduce weight, says Bill Glover, an environmental guru at Boeing.

At the moment, electricity on board aircraft is provided by an auxiliary power unit (APU)—a small gas-turbine engine that handles lighting, air-conditioning and pressurisation of the cabin, and even helps to start the main engine. (The APU accounts for the constant whirring noise that airliners make when sitting on the tarmac, even when their main engines are switched off.) The current designs for hybrid aircraft involve replacing the APU with a far more efficient system based on a fuel cell—a device that combines a fuel with oxygen to produce electricity. This approach has strong advantages over combustion: fuel cells are quiet, efficient, and produce far fewer emissions. Boeing estimates that the efficiency of the APU in converting energy from fuel into electricity could go from 15% today to as much as 70% with fuel cells.

This is a different approach to that of the hybrid car, of course, where electrical power (currently from a battery, but potentially from a fuel cell in future) is used for propulsion at low speeds, and to provide occasional bursts of acceleration. It is true that AeroVironment, a firm based in Monrovia, California, successfully flew a fuel-cell-powered aircraft called *Global Observer* last year. But it was an unmanned, lightweight design built for surveillance work; nobody expects electrically propelled airliners to take to the skies in the near future.

For years, Boeing has been trying to build a small, single-seater plane, driven by an electric motor and a fuel cell. Working with Intelligent Energy, a British firm, its researchers in Madrid now hope that such an aircraft will make its maiden flight later this year. “It's been a good learning experience for us,” says Mr Glover. But this pure-electric approach does not scale up to larger aircraft, which suggests that, as with cars, the hybrid model has more promise, at least for the time being. Hence Boeing's interest in fuel-cell APUs.

Don't rush out to buy a ticket for a hybrid airliner just yet, however. The company is still only at the stage of doing laboratory tests and preliminary design work. Mr Glover reckons that it will be “probably in the neighbourhood of 15-20 years before you see it in your local airport.” For its part, Boeing's main rival, Airbus, says it is looking at fuel cells in a “fairly intensive way”, but expects the technology to take hold in cars first, before spreading into planes.

So what are the remaining hurdles? For many years, the problem was one of weight. Early fuel cells were simply too heavy for aircraft, since they were developed for trucks and buses, where weight is not such a constraint, notes John Fielding, an aircraft-design expert at Cranfield University's School of Engineering, in England. But now, he says, fuel cells are steadily becoming lighter, more powerful and less costly, which makes them more suitable for use in aviation with every passing year.

The real challenge turns out to be integrating fuel cells into aircraft. “It's the system, stupid,” says Ted Wierzbanowski of AeroVironment. The difficulty of integration is the main reason that Boeing's single-seater fuel-cell aircraft, in which the electrical systems are retrofitted into a conventional airframe, has taken so long to get off the ground, says Mr Glover. This is not a problem unique to aviation. As the appetite for fuel cells spreads—they are being incorporated into everything from laptops to locomotives—each industry must figure out how to build the new power source into their existing products. So although hybrid aircraft will take off eventually, at the moment they still have a long runway in front of them.

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Bright sparks

Mar 9th 2006
From The Economist print edition

Innovation Awards: We invite nominations for our annual prizes recognising innovators

THE Economist's fifth annual Innovation Summit will take place in London on November 10th. Speakers from industry and academia will examine the latest trends in the management of innovation, from the laboratory to the marketplace. At an awards ceremony on November 9th, we will also honour successful innovators in a range of fields.

Accordingly, readers are invited to nominate outstanding innovators in seven categories: bioscience; energy and the environment; computing and telecoms; “no boundaries” (which includes materials science, nanotechnology and other emerging fields); consumer products; business processes; and social and economic development, a category that recognises individuals who have pioneered novel technologies and business models that improve everyday lives.

Please e-mail nominations to innovation@economist.com, giving the nominee's name, current affiliation and contact information, and a 100-word summary explaining why the nominee deserves to win the award in a category. The submissions will be judged by a panel of technology and business experts, including several previous winners. The deadline for nominations is April 24th.

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Television's next big shift

Mar 9th 2006
From The Economist print edition

Consumer electronics: Will "placeshifting", which lets you watch your TV from anywhere, be as disruptive as timeshifting?

IT ALL started with the video recorder. Its appearance in the 1970s enabled people to watch programmes when they wanted to, rather than when broadcasters decided to show them. But programming video recorders can be fiddly. So "timeshifting", as the process of liberating viewers from broadcast schedules is sometimes called, only really came into its own with the advent of personal video recorders (PVRs) such as the TiVo. Such boxes can be set up to record your favourite programmes whenever they come on, and their large storage capacity allows dozens of shows to be stored for playing back later. Such easy-to-use timeshifting technology completely changes the way that its users watch television. Not everyone approves, however: the same technology also makes it easy to skip over advertisements. And broadcasters are starting to impose restrictions on how long programmes or films can be stored.

While the timeshifting revolution is still playing out, another big change is under way with the emergence of placeshifting. Just as timeshifting lets viewers choose when to watch something, placeshifting lets them decide where. Of course, people have long been able to carry recorded shows (on videotapes or DVDs) around with them. But in the past few months, the placeshifting of live broadcasts, as well as recorded shows, has become possible. "What we're moving towards is having any content, anywhere, anytime, on whatever device is available to you," says Van Baker of Gartner, a consultancy. This is, he says, part of a far broader trend: the personalisation of media consumption, from mobile-phone ringtones to music playlists.

The company at the forefront of placeshifting is Sling Media, a start-up based in San Mateo, California. Last year it launched the Slingbox, which in effect lets you watch your own television from anywhere in the world via the internet. Shaped like a giant, silver chocolate bar, the Slingbox sits on top of your television, takes in video feeds from cable or satellite set-top boxes, DVD players and PVRs, and then retransmits a video stream via a broadband internet connection to wherever you happen to be. The remote device can be a PC, a laptop or even a handheld computer or mobile phone, provided it has a fast internet connection. You can then watch television (or DVDs, or programmes recorded on your PVR) from anywhere. Sling Media's founders, Blake Krikorian and his brother Jason, had the idea for the Slingbox in 2002, when they were unable to watch their local baseball team, the San Francisco Giants, while travelling. Veterans of the tech industry, they built the prototype "out of sheer consumer frustration," says Blake Krikorian.

The Slingbox went on sale last July for $249. While it took 21 months for the TiVo to sell 125,000 units, says Mr Krikorian, the Slingbox sold that many in six months. Products that do similar things have been developed by other firms: Sony sells a product called LocationFree, Orb Networks offers software that lets a PC retransmit TV across the internet, and Microsoft is working on something similar. But the Slingbox has a head start.

Putting it in its place

Will placeshifting have as significant and disruptive an impact as timeshifting? On the face of it, placeshifting's appeal is much narrower: travelling executives who want to watch their home teams from their hotel rooms across the globe hardly constitute a mass market. But the buzz around the Slingbox suggests that placeshifting could have broad appeal. Its buyers are ordinary consumers, not just geeks, insists Mr Krikorian. "This is a mainstream product already," he says.

Placeshifting enables office workers to watch sport at their desks on weekends or when working late, and allows people to use a Wi-Fi enabled laptop as a portable television within the home or in the garden. People are using Slingboxes to pipe television to their holiday homes from their main residences; some have plugged in security cameras, so that they can keep an eye on their homes (as well as watching TV) while travelling. Even broadcasters are using Slingboxes to monitor the performance of their networks.

As with the TiVo, Slingbox users become advocates for the technology to their friends. Another similarity between the two devices is that they are difficult to explain without a demonstration. But the Slingbox has the advantage that its users can demonstrate it wherever they are, rather than just in their homes. Indeed, Slingbox users who start watching television in offices and airport lounges have been known to attract small crowds.

Placeshifting might become a standard function on set-top boxes in future, just as PVR functionality is fast becoming standard today. Mr Krikorian says he would like his firm to become “the Dolby of placeshifting” by licensing its technology to makers of set-top boxes, just as Dolby licenses its audio-processing technology to electronics firms. (In January, two big media firms, Liberty Media and EchoStar, invested in the company.) But even if it does not become widespread, placeshifting could have dramatic consequences for the TV and film industries.

For while placeshifting offers benefits to those industries—it vastly increases the number of television screens, by turning any PC or handset with a broadband connection into a potential television—it also poses challenges. Placeshifting makes it harder to charge consumers for new streaming video and mobile-TV services, for example; why pay extra for a limited selection of programmes when you can stream TV from home right to your computer or handset? More significantly, the technology circumvents national censorship and regulatory rules and makes a mockery of national rights to television shows and sporting events, or regional release windows for films.

Placeshifting may turn out to be something that suits only a small minority of viewers. But by eroding many of the geographic rules that exist in the media industry, it should hasten the arrival of “when I want, where I want” television.

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What the nose knows

Mar 9th 2006
From The Economist print edition

Smell technology: Technology can manipulate and reproduce sight and sound with amazing fidelity. But what about smell?

WHEN it comes to reproducing sights and sounds, technology has made great strides in the past century. It is now possible to buy a high-definition television that produces an image almost indistinguishable from an aquarium or the view through a picture window; the best surround-sound systems can reproduce a concert performance so that it sounds just as it did in real life. While technologists have concentrated on sight and sound, however, smell has been left behind. Perhaps that is not surprising, since smell is, for most people, of lesser importance. But sometimes smell can provide information that other senses cannot. And that potentially opens the door to a range of new technologies.

For decades, scientists have been interested in imitating the way in which the nose detects compounds. Devices that do so are usually called artificial or electronic noses, says Vivek Subramanian, an engineer at the University of California in Berkeley. He has developed a new type of electronic nose that can, among other things, tell when wine has gone stale. The advantage of an electronic nose is that it is far more efficient and versatile than traditional chemical sensors. Developing a sensor to detect a single chemical substance is expensive, says Dr Subramanian, and such sensors then cannot be used to detect anything else. It is as if you had invented a camera that can take pictures only of red objects, or a microphone that picks up words only if they are spoken in French. But a general-purpose electronic nose can be used for all sorts of things, from sniffing food for quality control to detecting explosives at airports.

The inspiration for such general-purpose devices is the human nose itself. Rather than recognising individual chemicals, each of its 300-400 different types of receptor responds to a wide range of volatile compounds. Across the tens of millions of cells that make up the human olfactory system, recognition of a smell appears to emerge from the combination of many such responses, much as the recognition of a face depends on identification of many different characteristics. This distributed approach enables the olfactory system to detect tens of thousands of smells without having to have tens of thousands of different types of receptor.

Today's electronic noses consist of an array of a dozen or so polymer films, each of a slightly different type. The electrical conductivity of these films varies in the presence of different chemicals, so that when the array of films is exposed to a particular odour, the different films respond in a characteristic way.

Dr Subramanian's electronic nose, however, takes a different approach. Instead of polymer films, it uses an array of transistors made out of various organic semiconductor materials. Transistors are ideal for sensing, he says, because they are highly sensitive to very slight changes in charge structure and bond structure, both of which can be induced by bringing them into contact with other compounds. Transistors made of different materials respond differently to different chemicals, so that the array produces a distinctive signal when exposed to an odour. A sensor based on an array of five types of organic transistor is capable of distinguishing between unspoiled and

oxidised wine.

Dr Subramanian's new nose is unusual not only in how it works, but also in how it is made. Organic semiconductors can be printed using special inkjet printers, which greatly reduces their cost. This could slash the price of electronic noses from hundreds to just a few dollars. Indeed, Dr Subramanian believes that electronic noses will eventually be so cheap that they will be built into food containers and pharmaceutical packaging, to indicate when a product is past its best. For this to happen, however, the price will have to fall below $1, which is unlikely for at least five years, he says.

Even when cheap sensors do become available, detecting compounds is only half the problem. As with a natural olfactory system, electronic noses must be able to learn and later recognise new smells. Ritaban Dutta at Warwick University in Britain has developed software that can recognise the smell of bacteria, including the deadly superbug MRSA (methicillin-resistant *Staphylococcus aureus*). The project began when his collaborator, David Morgan, who is a surgeon at the Heart of England Hospital in Birmingham, noticed the distinctly different smells given off by abscesses during surgery. He wondered if a machine could be trained to tell these different smells apart.

Armed with a traditional polymer-based electronic nose of the kind used by the food industry to detect rotten ingredients, Dr Dutta trained his software to recognise MRSA by exposing it to samples of the bacteria. This was more difficult than it sounds, since the relative concentrations of the various compounds that correspond to a particular odour can vary from one sample to another. But when it was tested on 150 known samples, the resulting system was able to identify MRSA correctly 96% of the time. Dr Dutta is now seeking backing to extend his system so that it can also detect other dangerous bacteria, such as those that cause Legionnaire's disease. It might ultimately be possible to install sensors in hospital ventilation systems, he says, to prevent the spread of infections.

Michael Phillips of Menssana Research in Fort Lee, New Jersey, has gone one step further by developing a breathalyser that can detect lung cancer. “We can pick it up very early,” says Dr Phillips. His invention, called the Breath Collection Apparatus, has already been approved by America's medical regulator, the Food and Drug Administration, for detecting the early signs of heart-transplant rejection, and he believes it can also be used to detect breast cancer and tuberculosis.

The trick is to get a big sample of breath, says Dr Phillips. The patient breathes into the device for two minutes and an absorbent trap captures volatile organic compounds (VOCs), which are found in the bloodstream and pass into the breath in minute quantities. The levels of VOCs are then measured using gas chromatography, and compared with those in a sample of ambient air taken at the same time. The system can detect very minute concentrations of VOCs—as low as a few parts per trillion. A pilot study found that the presence of a combination of 22 VOCs was an accurate indication of lung cancer, and a larger study is now under way. In the first stages of lung cancer, patients have an 80% chance of surviving for another five years, compared with a 5% chance when at stage four, says Dr Phillips. “We can detect lung cancer at stage one,” he says.

So much for devices that detect smells; what about systems that emit them? These turn out to have therapeutic uses, such as in the treatment of war veterans suffering from post-traumatic stress disorder (PTSD). Skip Rizzo, a psychologist at the Institute of Creative Technology at the University of Southern California in Los Angeles, has been using virtual reality, in the form of video games, to treat PTSD. The idea is gradually to reintroduce the patient to the environment that caused the stress and trauma in the first place, steadily increasing the realism of the experience until it no longer causes them suffering, he says.

To make the treatment even more realistic, Dr Rizzo has taken to using a box of tricks that squirts out a range of odours, including the smells of cordite, diesel, body odour, gunpowder and even rubbish, intended to make soldiers feel as though they are back in Iraq. It is an old but effective trick: real-estate agents often recommend making coffee before potential buyers visit a home, because the smell makes them feel relaxed and at ease. Similarly, shopping centres often have cookie shops, which pump out warm chocolatey smells. “The olfactory system is linked to the limbic system, which controls memory,” says Dr Rizzo, and that explains why such tricks are so effective.

Towards smellyvision

These smell boxes are remarkably simple, but might eventually lead to the ultimate in olfactory output technology: smellyvision. According to Doron Lancet, a scientist at the Weizmann Institute in Israel, just about any kind of smell can be bottled, from burnt tyres to candy-floss. But he believes it will be possible to make devices that can produce just about any kind of smell without having to have samples of each and every one. “We have mathematical algorithms that could streamline the process of mixing the odours,” he says. These formulae could be used to mix compounds from a palette of smells to produce a range of different odours. In conjunction with an electronic nose, it would then be possible to sample a smell in one place, and synthesise it at another.

This was the dream of DigiScent, an American company that Dr Lancet joined in 2000. DigiScent had the ambitious goal of odourising the internet with digital scents in this way. “We were trying to make odour generators which could be controlled electrically,” he says. But even though their prototype machines could indeed produce a few dozen smells, smellyvision was sadly not to be. “People told us this was a technology ahead of its time,” says Dr

Lancet.

A third type of smell technology does not detect or reproduce smells, but prevents the sense of smell from working —providing the olfactory equivalent, in other words, of a blindfold or earplugs. Overcoming horrendous smells can be one of the biggest obstacles in clean-up operations such as those that followed the Asian tsunami of 2004 and Hurricane Katrina in New Orleans last year. The stench of decaying flesh from bodies floating in the water or hidden inside buildings, combined with the reek of overflowing sewers, is enough to turn even the strongest stomach.

Besides making the conditions for relief workers unimaginably difficult, it can also leave them with memories that haunt them for years. Such an experience can be so unpleasant and powerful that the smell seems to etch itself into the olfactory senses, in what is sometimes called the “barbecue effect”—so named because the smell of burning meat can trigger horrific memories of burned bodies in fire-fighters or soldiers years later.

Yet when clearing up in the aftermath of Katrina, many of the relief workers avoided this possibility by smearing a novel gel under their noses. Called OdorScreen, the gel looks and smells deceptively simple, but is quite unlike other odour-neutralising agents. While the mentholated petroleum jelly that pathologists and crime-scene workers sometimes use is designed to overpower unpleasant smells, OdorScreen interferes with the sense of smell itself. “OdorScreen is a completely different concept,” says Dr Lancet, who acts as a consultant for Patus, the Israeli company that developed the gel.

OdorScreen works by releasing into the nose harmless compounds that interfere with receptor proteins involved in controlling the perception of the intensity of malodours. These mechanisms serve a similar purpose to the iris, which controls how much light enters the eye. Without such mechanisms, our senses would be overwhelmed, says Dr Lancet. The effect lasts for about two hours, after which fresh gel can be applied without fear of an overdose. And unlike a nose clip, the gel does not interfere with breathing.

Since it seems to be capable of concealing all kinds of malodours, the gel could have a wide range of uses beyond disaster-recovery, says Dr Lancet. It could be used in operating theatres, for example, and might even find its way into household products such as nappies. A trivial application, perhaps—but one that is not to be sniffed at.

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Wi-Pie in the sky?

Mar 9th 2006
From The Economist print edition

Communications: Cities across America plan to build municipal Wi-Fi networks to widen access to broadband. Will they work?

“WE WILL not stop until every San Franciscan has access to free wireless-internet service.” It was a typically bold statement from Gavin Newsom, the charismatic young mayor of San Francisco, as he announced plans in October 2004 for a Wi-Fi network that would blanket the city with wireless-internet coverage. Mr Newsom thus joined a nationwide movement of cities across America that are planning to provide wireless-broadband access for government workers, residents and businesses.

These municipalities, ranging in scale from communities of a few thousand residents to huge cities including Philadelphia and San Francisco, are concerned that the lack of availability of broadband access, compared with other parts of the developed world, is holding back economic growth and perpetuating a “digital divide” between internet haves and have-nots. A further motivation is that by setting up their own wireless networks, municipalities hope to be able to cut communications costs, improve the efficiency of their staff, and make possible new services such as allowing parking meters to accept debit and credit cards.

Small municipal wireless networks, typically built for local-government use, have been up and running in some parts of America for some time. The far bolder idea of building citywide networks available to all took flight in August 2004, when plans for such a network were announced by John Street, the mayor of Philadelphia. Stringing transmitters across the entire city would create the world's largest Wi-Fi hotspot, providing access both indoors and out.

This would extend low-cost broadband access to existing users frustrated by the slow speed and high cost of dial-up internet connections. A survey conducted by the city found that 72% of internet-connected households used dial-up connections, compared with 47% nationally. “We wanted broadband at dial-up rates,” says Dianah Neff, the city's chief information officer. In addition, the city would provide subsidised or free access to tens of thousands of unconnected residents, sometimes even supplying computers. Only 45% of Philadelphia residents had internet access at home, the city found, which compared poorly with the national figure of 73%. Last October the body established by the city to oversee the project, Wireless Philadelphia, picked EarthLink, a national internet service provider, to build and operate the network, which is expected to cost around $10m.

Philadelphia's ambitious scheme prompted many other cities, including San Francisco, Portland and Minneapolis, to follow. So far, nearly 200 municipalities have announced plans for citywide wireless networks, issued bid requests, or built networks, according to Esme Vos, the founder of Muniwireless.com, a website that tracks the subject. Over the next three years nearly $700m will be spent building such networks in America, she estimates. Some networks will be supported by advertising; many will charge fees of $15-25 per month. Most will offer some form of free access at certain times of day or to poorer users.

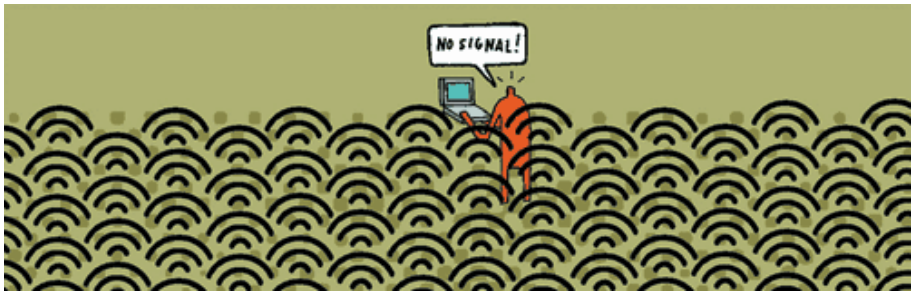
Free (or at least cheap) broadband for every citizen—who could argue with that? Plenty of people, it turns out. Critics worry that cities are underestimating the cost and complexity of building and running their own networks. Incumbent telecoms and cable operators are predictably opposed to subsidised schemes that will compete with their own broadband offerings. Then there are the technical objections: no Wi-Fi network as large, dense and complex as Philadelphia's proposed system has ever been built; citywide Wi-Fi networks could interfere with existing Wi-Fi systems; and the networks will be built using proprietary technologies, so that municipalities will become dependent on their equipment-makers.

These criticisms have some merit. Last October Mr Newsom back-pedalled on his “free Wi-Fi for all” pledge, in favour of providing “affordable” wireless access throughout San Francisco. And when putting networks out to tender, the preferred model is now for the construction and operating costs of the network to be carried by the winning bidder, to ensure that cities' own liabilities are limited. But much uncertainty still remains over whether large-scale municipal Wi-Fi networks can be made to work at all. Even if they can, nobody knows how much they will cost. And it is hardly reassuring that rival manufacturers, each promoting different and incompatible technologies, claim not just that their equipment is the best, but that their rivals' will not work at all. When challenged, vendors point to the many smaller networks that are already running. So who is right?

“Using Wi-Fi at high power levels for citywide coverage could drown out existing networks.”

The view from Tempe

To see municipal wireless networking in action, a good place to start is the city of Tempe, Arizona, a suburb on the outskirts of Phoenix with 160,000 residents spread over 40 square miles. The flat, desert terrain is an ideal environment in which to use wireless networking to boost the availability of broadband. Several years ago the city installed wireless-broadband equipment on two buttes at the opposite ends of town. Rather than paying to lease high-speed digital lines from Qwest, each of which would cost hundreds of dollars per month, police stations and other municipal buildings are linked via the city's own wireless network. Telecoms costs have fallen from $1.7m a year a decade ago to $0.5m today. “We're probably not Qwest's favourite customer,” says Dave Heck, Tempe's deputy manager of information technology.



As a result, when the city began considering ways to extend broadband access to more residents—including nearly 60,000 students, staff and faculty members at the main Arizona State University campus in the centre of town—wireless made a lot of sense, says Mr Heck. “We don't have a lot of competition for broadband in Tempe,” he says. “There's just not a lot there.” A local provider, NeoReach, won the contract to build a Wi-Fi “mesh” network to provide broadband throughout Tempe, using equipment made by Strix Systems. NeoReach is paying for the network's construction, and will collect access fees from subscribers; the city's administration, police, fire and emergency services will also pay to use the network, which will cost $2.3m to build.

Mesh networking allows large areas to be blanketed with wireless coverage quickly and inexpensively. As its name suggests, a mesh network consists of an array of wireless access points, only a few of which are actually connected back to the internet via high-speed links (known as “backhaul” connections). The trick is that all of the access points double as relays, passing packets of data to and from their neighbours. This connects up the mesh, so that users can access the internet at high speed at any of the access points. If the nearest access point does not have a backhaul connection, the packets of data that users send and receive simply make one or more “hops” across the mesh.

As well as being cheap and fast to set up—partly because many of the access points can be attached to utility poles—mesh networks have several other merits. They can provide coverage in areas, such as sprawling suburbs, where fast copper or fibre-optic connections are hard to come by. “When you get out in the residential areas, there's no fibre,” says Chuck Haas of MetroFi, whose company has installed mesh Wi-Fi networks in three of the San Francisco Bay Area's largest suburbs. Mesh networks are reliable, since the failure of one or more access points does not bring down the whole network, and they can also route data around obstacles, such as large buildings, which might otherwise block coverage.

By January NeoReach had installed over 400 access points in Tempe, providing Wi-Fi to subscribers in much of the city, and in outdoor areas in downtown Tempe and on the university campus. With the network's completion this month, NeoReach claims to have built the first example of a citywide Wi-Fi network in America. Proof, surely, that Wi-Fi mesh networks are an excellent way to extend broadband coverage across entire cities?

In fact, it is too soon to say. Wi-Fi was designed for use in small hotspots, not in citywide mesh networks. Using mesh networks to connect up a flat, sprawling, relatively sparsely populated suburb is one thing. But many unknowns remain, given the scale and nature of the networks about to be installed in Philadelphia, San Francisco and several other large American cities—all of which will push Wi-Fi technology to its limits. “We're taking this

technology and, through some enhancements, we're trying to apply it for an application it wasn't really designed for," says Peter Rysavy, an independent wireless consultant. "Consequently, we just do not know how well it's going to work—but we're going to find out."

Not so fast

Some mesh network devices, notably those made by Tropos Networks, the market leader, use the same Wi-Fi frequencies both for communication between neighbouring access points, and to connect users to the mesh. Wireless experts fear that the use of Wi-Fi at the very high power levels required for municipal-scale networks, particularly in cluttered cities, could drown out existing outdoor Wi-Fi networks, public and private, and slow or disable indoor networks. An estimated 10m American homes contain Wi-Fi networks; many more are installed in offices, schools, coffee shops and parks. "It is absolutely guaranteed that you're going to end up interfering with anybody else that is using any channels within your coverage area," says Mr Rysavy.

To make matters worse, Wi-Fi operates in "unlicensed" frequency bands, which are supposed to be available for anyone to use. By interfering with existing Wi-Fi networks, a municipal network is, in effect, appropriating a shared public asset. "There are going to be 3,000 or 10,000 or whatever access points in the city of San Francisco," says Tim Pozar, a wireless consultant. "Even though this is unlicensed frequency, guess who owns the spectrum? The vendor."

Ron Sege, the boss of Tropos, insists that his firm's technology does not cause undue interference. After all, he notes, there are millions of access points in use already, with more being added all the time. Tropos nodes installed in a city are no different, he says, from a home user buying an access point and plugging it in. The problem, however, is that off-the-shelf access points operate at just 3-20% of the power output of the mesh nodes made by Tropos and its rivals. Reducing the signal strength of the mesh nodes would reduce interference with existing networks, but the density of nodes would then have to go up, increasing costs.

Interference is not the only potential difficulty with municipal Wi-Fi networks. Another problem, notes Mr Rysavy, is that there is no common standard for Wi-Fi meshing, and thus no compatibility between the five leading vendors' equipment. So if a city builds a network and the vendor goes bust—as recently happened to Vivato, a pioneer of long-range Wi-Fi gear—keeping the network running could be difficult. Although a standard for Wi-Fi meshing, called 802.11s, is under development, it is not very far along—and cities want to start building now. "Until there's some standardisation in the mesh protocols, any deployment today is pretty risky," says Mr Rysavy.

That raises another criticism: that wireless technology is developing very quickly, yet most municipal networks will be based on a Wi-Fi standard that is already three years old. Why not wait for the next-generation standard, 802.11n, which is much faster, or for Wi-Fi's long-range big brother, a much-hyped technology called WiMax? Waiting a year or two might make it possible to build faster networks over greater areas at lower cost.

In fact, 802.11n is designed to perform best indoors, while WiMax has already been factored into most municipal wireless plans—where it will be used to provide backhaul connections to the mesh. EarthLink, for example, will use Canopy, Motorola's WiMax-like technology, for this purpose in Philadelphia and in four other cities. And dedicated Canopy links will also, says Ms Neff, be used to connect several hundred large buildings, which will not therefore rely on the Wi-Fi mesh. "Metro Wi-Fi is going to create the base and the excuse for WiMax," says Tom Hulsebosch of Motorola's Canopy division.

Municipal Wi-Fi must also contend with political interference. A number of reports financed directly or indirectly by incumbent telecoms firms such as Verizon, AT&T and Comcast, have criticised municipal networks as risky wastes of taxpayers' money that will provide unfair competition to private companies. Similarly, there have been complaints that if city governments cannot even fill potholes in roads, how will they be able to manage the far more complex task of running a network? Proponents of municipal networks respond that broadband access is just another utility, and that utilities have been state-run in the past. That is true, but public ownership of electrical utilities was, in fact, as controversial a century ago as municipal Wi-Fi is today.

Philadelphia's plans were almost derailed when, after much lobbying, legislation was proposed in Pennsylvania that would have given Verizon, the local incumbent, right of first refusal in any municipal telecoms scheme. A bitter argument ensued, and the bill was signed into law only after Verizon agreed to issue a waiver exempting the city of Philadelphia from the provision. Similar bills preventing municipalities from going into competition with telecoms incumbents have been passed in over a dozen states.

"If city governments cannot even fill potholes, how will they be able to manage running a network?"

One exception is Texas, where a grass-roots movement succeeded in scuttling a vote on such a bill, which had been sponsored by the local incumbent, SBC (since renamed AT&T). Michael Dell, the founder of the world's biggest PC-maker, based in Round Rock, Texas, helped to undermine the bill when he pointed out to state legislators that more broadband might sell more computers, and thus bring more jobs and tax revenues to the state. To avoid such political wrangling, many cities are now taking the approach of awarding contracts to firms that build the networks at their own expense, pay taxes or franchise

fees, and operate autonomously, in return for special rights to city-owned facilities such as utility poles, towers, building tops and electricity.

All of this means that Philadelphia, San Francisco, Minneapolis, Portland, Chicago and many other cities are participants in a great experiment. Building a large Wi-Fi network is harder than it looks, says Mr Haas, who has first-hand experience, not least because, once deployed in the field, mesh Wi-Fi equipment does not always perform as promised. “The radios we put up in 2002 and 2003 and the first half of 2004—hundreds of them—are either back at the vendors or sitting in the warehouse,” he says. Only in the past 18 months has his firm hit upon the right combination of equipment and network design.

One step at a time

Reassuringly, Philadelphia and other big cities are taking a staged approach to the deployment, which will allow the conflicting claims made by equipment manufacturers to be resolved, one way or another. In Philadelphia, EarthLink will start by building a 15-square-mile test network covering different terrain, demographics and building densities. Building such a test network “is very expensive to do, but it's never been done,” says Greg Richardson of Civitium, a consultancy that was involved in the bidding in Philadelphia and San Francisco. If EarthLink cannot meet the specifications set by the city and assessed by independent auditors, the network will not be built. “It gives us a chance to see if what we ask for is realistic, or if we need to change some of the parameters,” says Ms Neff. And if existing Wi-Fi networks are disrupted, citizens in the test area will know whom to blame.

Mayor Newsom's utopian vision of free wireless for all quickly ran up against the snag that all such giveaways require: there's a price to pay at the end of the day. Even with the decision to charge some users for access, not all cities will find that their plans for citywide Wi-Fi networks turn out as expected. The real measure of municipal wireless networks will not be in places such as Tempe, where they are expected to work, but in bigger cities, where success is far from certain. Whether service providers will be able to meet the required technical standards and still make a profit will soon become clear.

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Not just a flash in the pan

Mar 9th 2006
From The Economist print edition

Storage technology: Flash-memory chips are encroaching on markets previously dominated by hard disks, recordable DVDs and magnetic tape. Will flash displace all other storage technologies?

Reuters

WHEN Apple launched the iPod nano, the slimmest incarnation to date of its prized music player, last September, it attracted plenty of attention. While consumers swooned over its sleek design, analysts were more likely to hail it as a turning point for the storage industry. Whereas the original iPod used a relatively bulky, power-hungry hard-disk drive to store music, the iPod nano instead relies on small, silent and sturdy “flash” memory chips, which retain data even when the power is switched off. It is a vivid illustration of the way in which flash memory is marching into markets previously dominated by other storage technologies: not just hard disks in music players, but photographic film in cameras and magnetic tape in camcorders.

Flash is everywhere. Digital cameras use plug-in flash cards to store photos. Flash-based memory sticks, or keychain drives, have dethroned floppy disks as the easiest way to carry data around. Mobile phones and handheld computers use flash memory to store software, documents, music tracks and photographs. Then there is all the flash you don't see, quietly storing settings and configuration data in cars, games consoles, printers, modems, satellite-positioning systems, and so on.

In 2005 global sales of flash chips exceeded $19 billion, says Alan Niebel, a semiconductor analyst at Web-Feet Research. That is enough to buy roughly 40 megabytes of flash for each person on earth. Such is the demand in consumer products that in November Intel and Micron Technology, two big chipmaking firms that are normally competitors, established a $5 billion joint-venture, called IM Flash Technologies.

Meanwhile, flash continues to expand its influence. Japanese camcorder-makers have been offering flash support (which allows video to be recorded directly to flash cards) for several years and, at the Consumer Electronics Show in Las Vegas in January, Sanyo previewed what it claims is the first camcorder able to record high-definition video to a flash-memory card. It goes on sale this month, just two years after the first hard-disk-based camcorder appeared and four years after the advent of the first camcorders able to generate recordable DVDs. Every storage technology, it seems, is threatened with replacement by flash.

Admittedly, the Sanyo camera records only about 20 minutes of high-definition video on to a one gigabyte flash card. But as such cards shoot up in capacity and tumble in price, the gap with other storage media will narrow. And, as the iPod nano demonstrates, capacity is not everything: an iPod nano with four gigabytes of flash storage sells for around $250, just $50 less than a “traditional” iPod based around a 30-gigabyte hard disk. Flash-based products may have less storage capacity at a given price point, but they are smaller, sleeker, more robust and require less battery power than devices based on mechanical storage technologies, which boosts their appeal.

Flashback

The origins of flash memory go back to 1967, when Simon Sze and Dawon Kahng, two researchers working at Bell Labs in New Jersey, devised a new type of semiconductor memory device in which information could be stored and updated, and which was “non-volatile”—which means it retained its contents even when the power is switched off. This was a novelty, since most semiconductor memory was either random-access memory (RAM), the contents of which can be changed—but which forgets everything the moment the power goes; or read-only memory (ROM), which never forgets, but cannot be reprogrammed.

The beauty of the researchers' design lay in its simplicity. It required just a minor modification to a field-effect transistor, the basic building block of most microchips. Transistors use a small voltage, applied to the “gate” of the transistor, to control the flow of a large current. The zeroes and ones of digital information that whizz around inside a computer correspond to whether individual transistors are switched on or off.

The researchers' innovation was to add a second gate to the middle of the transistor, called a “floating” gate because it is insulated by a thin oxide layer. (The transistor's original gate is known as the “control” gate.) Initially, the floating gate does not interfere with the working of the transistor. But applying a suitable voltage across the oxide layer causes electrons to “tunnel” through it and become trapped on the floating gate, where they are stuck even if the power is disconnected. If there are enough electrons on the floating gate, it starts to interfere with the working of the transistor, so that a voltage applied to the control gate no longer controls the flow of current through the transistor. Whether current flows through the transistor or not can be detected using external circuitry.

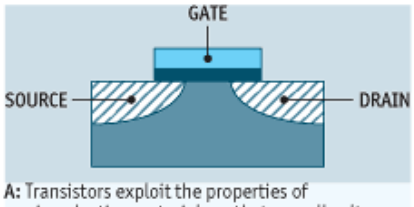
The modified transistor can thus serve as a memory cell. When no electrons are on the floating gate, and the transistor works normally, it represents a one; and when electrons are trapped on the floating gate, so that the transistor stops working, the cell is deemed to represent a zero. Crucially, the process can also be reversed: a suitable voltage across the oxide layer applied in the opposite direction causes the electrons to “tunnel” back off the floating gate, restoring the transistor to its original state and resetting the stored value to a one. The cell is therefore both programmable and non-volatile.

Dr Sze, who now works at the National Chiao Tung University in Taiwan, recalls the initial reaction to this breakthrough. “My boss said ‘Simon, tell me, what use can you think of for this device?' I could not think of anything.” As a result, he was told to bury the result in an obscure journal, lest this useless invention draw the ridicule of his peers. Floating-gate memory did eventually find its way into production, but since it was expensive, it tended to be used in niche applications such as military equipment and the very earliest mobile phones, which were hardly mass-market items.

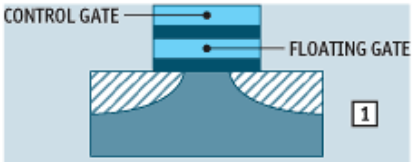
“Flash will increasingly compete with hard disks to become the preferred storage technology in laptops. Expect a showdown in the next few years.”

Memories are made of this

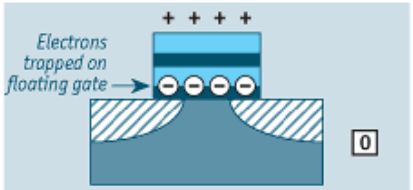
How flash memory works



A: Transistors exploit the properties of semiconducting materials so that a small voltage, applied to the gate, can be used to control the flow of a large current between the source and drain. This is what an ordinary transistor looks like.



B: In a flash-memory cell, a second gate—called a floating gate, because it is insulated by a thin oxide layer—is added to the middle of the transistor. Initially, the floating gate does not interfere with the working of the transistor. In this state, the cell is deemed to represent a “one”.



C: Applying a large voltage across the oxide layer causes electrons to tunnel through it and become trapped on the floating gate, where they remain even if the power is disconnected. This interferes with the working of the transistor. In this state, the cell is deemed to represent a “zero”. The state of the cell can be read using external circuitry to test whether the transistor is working or not. Applying a large voltage in the opposite direction removes the electrons from the floating gate.

Sources: Intel; *The Economist*

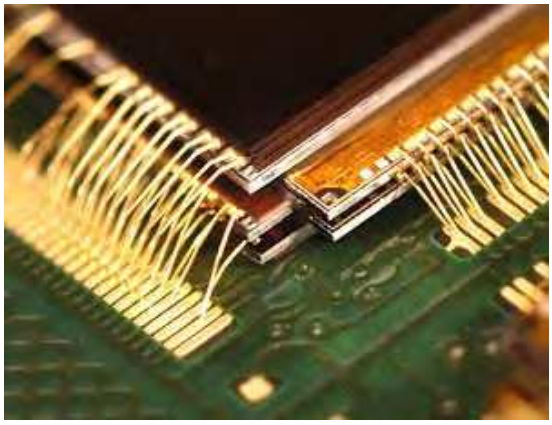
Then in 1980, Fujio Masuoka, a researcher at Toshiba, filed a patent for a novel variation on floating-gate memory. His new invention was dubbed “flash” memory, because it allowed entire sections of memory to be erased quickly and easily, by applying a voltage to a single wire connected to a group of cells. Dr Masuoka's design was a compromise between flexibility and cost. Being able to erase each memory cell individually made ordinary floating-gate memory complex, power-hungry and expensive. Dr Masuoka's design was less flexible, since it required entire groups of cells to be erased together, but it was far cheaper.

As with floating-gate memory, Dr Masuoka's idea was not initially appreciated by his superiors. “My daily work was to develop a one-megabit RAM,” he says. “At home, after working hours, I worked to develop flash memory.” In retrospect, however, his invention was a classic case of a well-prepared mind seeing an opportunity where others had not even realised there was a problem. Dr Masuoka happened to have a good understanding of the separate fields of computer memory and magnetic-storage systems. His invention offered a useful compromise: a new means of storing and accessing data files that was faster and more resilient than a hard disk, even if it could not compete with traditional memory (RAM) on speed or programming flexibility.

By 1986 Toshiba was producing the first batches of test chips, and two years later Intel licensed the technology and began its own production. In 1987 Dr Masuoka invented another type of flash memory that could be produced more cheaply and in denser arrays. That variety is now called NAND flash, to distinguish it from the earlier type, known as NOR flash. (NOR and NAND are the names of simple circuits that perform logical operations on binary information; in the context of flash memory, they describe the particular way in which the memory cells are interconnected.)

In the two decades since the first flash chips appeared, thousands of engineers have applied themselves to making the technology smaller, cheaper and better. Some of their advances are minor miracles of ingenuity, such as the development of “multi-level” flash-memory cells. These work by varying the quantity of electrons trapped on the floating gate, so that rather than preventing the transistor from working altogether, they disable its ability to control the flow of current to various degrees. Two binary digits (bits) of information can then be stored in a single cell, for example, depending on whether it is not working (0,0), 33% working (0,1), 66% working (1,0) or fully working (1,1).

Another feat of flash engineering has been to reduce the density of flash storage by stacking several chips on top of each other. This involves etching away the underside of the chips until they are almost as thin and as flexible as paper, bonding them together and then connecting them up via electrodes that project slightly out of the edge of the resulting sandwich (see picture). This trick is particularly favoured by makers of NOR flash, the kind used in mobile phones, where space is at a premium. Most stacked-chip flash products involve just two chips, though some producers make stacks up to five or six chips tall. As in the real world, when property gets expensive, engineers build upwards.



These chips are stacked in your favour

As such tricks improve the storage density and reduce the cost of flash memory, it will increasingly compete with hard disks to become the preferred storage technology in laptop computers; a showdown seems likely in the next few years. Laptops are portable devices, so any technology that can reduce volume and weight and increase battery life has obvious appeal. At the same time, however, as fully fledged computers running complex operating systems, laptops require tens of gigabytes of storage.

Battling for the laptop

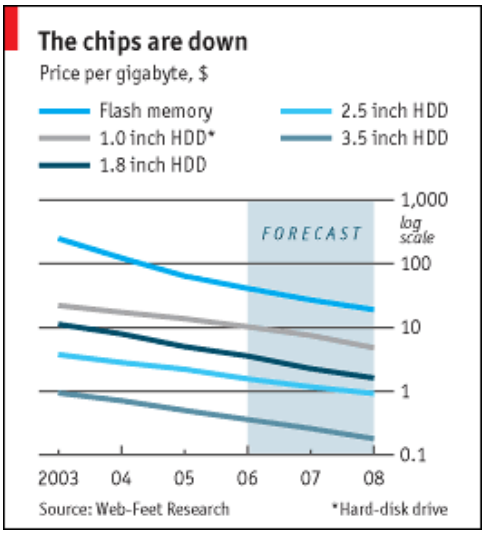
That is why hard disks are the dominant form of storage in laptops. But last May, Samsung, a South Korean electronics giant, demonstrated a 16 gigabyte NAND flash drive. (Samsung is by far the largest producer of NAND flash, with more than 50% of the market.) The prototype drive contained 16 one-gigabyte flash chips packed into a standard hard-disk casing, which can slot into any computer. Being based on flash, however, it weighs half as much as an equivalent hard disk and uses much less power. Samsung has since announced a two-gigabyte flash chip, which will go into mass production later this year.

The main drawback with such flash drives, when they reach the market, will be their high cost. The price per gigabyte of flash storage is roughly 100 times that of hard-disk storage. The cost of a given amount of flash storage is falling all the time, of course, but the same is true of hard disks. Jim Handy, an analyst at Semico Research, a consultancy, estimates that it would cost around $4,000 to buy enough flash memory to replace an average laptop hard disk—a figure that has remained roughly constant for the past five years as laptops' storage requirements have grown. In other words, because both technologies continue to evolve, the price-performance gap between flash and hard disks is narrowing slowly, if at all (see chart).

However, says Mr Handy, the price per gigabyte does not give the complete picture. Hard disks have a fixed cost, independent of capacity, of around $100 for their internal mechanical parts. Flash has no such fixed cost. So at any given point there exists a range of storage capacities where flash, despite being much more expensive per gigabyte, can compete with hard disks on price. Today, flash is competitive for capacities of four gigabytes or less—hence its appearance in the iPod nano, which comes in two-gigabyte and four-gigabyte versions. Above about 20 gigabytes, hard disks win hands down.

In between is a battle zone where the two technologies compete. And as the price per gigabyte of both technologies falls, the fight shifts to ever higher capacities. In theory, it is just a matter of time before flash drives become competitive in the 50-100 gigabyte range of today's laptop hard-disk capacities. Yet each new operating system requires more storage capacity than the last. In January Microsoft signalled that laptops would need around 80 gigabytes of disk storage to run the next version of its Windows operating system, called Vista.

To further complicate matters, flash has the disadvantage that its memory cells eventually wear out—though the cells in modern flash chips can typically be reprogrammed around 1m times before this happens. This is not a problem in a devices that stores largely static files that are read but seldom modified (such as music tracks on an iPod). But using flash memory in place of a hard disk to store running software, such as an operating system, is a different matter, since information is constantly being modified and updated. To get around this drawback, flash-memory controllers keep track of how often particular groups of cells have been modified, and move data to different parts of the chip to maximise its lifespan. And if a fault is detected in a group of cells, that group can be tagged so that it is no longer used. It is worth remembering, however, that hard disks, particularly those in laptops, also have limited lifespans.



Although flash seems unlikely to replace hard disks just yet, it could soon start to infiltrate laptops in a more gradual way. Last year Microsoft and Intel demonstrated different ways to combine flash memory with hard-disk drives. In both cases the flash serves as a temporary storage for frequently used data, reducing the need to access the disk. This speeds up the rate at which data can be retrieved, enables laptops to wake up more quickly from sleep and extends battery life.

Not everyone is convinced, though. Mr Handy points out that neat demos usually take a couple of years at least to turn into real products. And in that time, hard disks will have improved further as well. Indeed, flash has traditionally done best against storage media that have more or less reached their technological limits, such as photographic film, floppy disks and CDs. Hard-disk firms, however, continue to innovate at great speed, and are by some measures managing to push down the cost per gigabyte of storage even faster than flash. Indeed, hard disks have lately been fighting back: both Samsung and Nokia have launched mobile phones that contain tiny hard disks to store music, for example. And the expected leap in demand for storage capacity, as phones double as TVs and video cameras, plays to hard disks' strengths.

“Universal memory, the holy grail of storage, would combine the speed of RAM with the non-volatility of flash and the low cost of hard disks.”

The quest for the universal memory

This is all a healthy reminder that no storage technology can afford to rest on its laurels. Indeed, the greatest threat to flash may come from its own success. Flash chips are, by most estimates, doubling in capacity roughly every year, outdoing even Moore's law, which predicts a doubling of the number of transistors on processor chips every 18 months. Sooner or later, this sort of exponential trend, which depends on shrinking each generation of transistors, is going to run into fundamental manufacturing limits. What new storage technology will step in then?

The field is wide open. Mr Niebel of Web-Feet Research says he keeps track of more than 40 pretenders to the flash throne. Many of them have yet to progress beyond laboratory prototypes. But one or two have made the leap to fabrication. Magnetic RAM (MRAM) and Ferroelectric RAM (FRAM) are, as their names indicate, variations of the RAM used in today's computers. These technologies combine the speed and programming flexibility of RAM with the low power consumption and non-volatility of flash. But to store data, they rely on special materials that respond to magnetic or electric fields, which makes their production trickier. As a result, prototype chips with more than a megabyte of capacity have begun to appear only in the past couple of years, and will be relegated to specialist markets until they can compete on cost and capacity with other technologies.

A radically different approach to storing data is the Ovonic Unified Memory (OUM), pioneered by Stan Ovshinsky, a highly successful and eclectic serial inventor. OUM is based on so-called chalcogenide materials, the atomic structure of which can be changed reversibly from a well ordered crystalline state to a disordered, amorphous state by applying a burst of electrical current. These two states can then be used to represent zeroes and ones. The technology is faster than flash, has a lifetime of trillions of cycles, and its performance increases as the size of the memory cells is reduced (since less energy is required to change the state of a smaller cell). Mr Ovshinsky's firm, Ovonyx, has already made prototype chips in conjunction with STMicroelectronics, a big chipmaking firm, and the results are said to be very promising.

OUM is just one of the candidates in the race to create a “universal” memory, the holy grail of the storage industry, which would combine the speed of RAM with the non-volatility of flash and the low cost and high storage-density of hard disks. Ed Doller, chief technology officer at Intel's flash-memory division, says the company is following the progress of OUM technology closely. Although it is not in a position to threaten flash in the next couple of years, he says, “beyond 2010, it has legs”.

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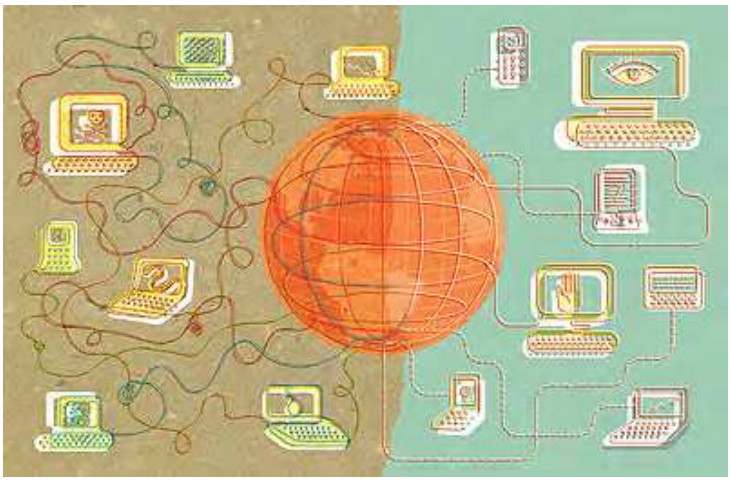
Reinventing the internet

Mar 9th 2006
From The Economist print edition



Networking: New initiatives aim to overhaul the internet. But how can a "clean slate" redesign ever be implemented?

IF A planet-wide data network, akin to the internet, were built on Mars, what would it look like? That might sound like a silly question, but it raises an important point. The design of computer networks is constrained by the need to be compatible with the internet and other systems that have grown up over the past four decades. What if network designers could start again with a clean slate, unencumbered by today's messy reality?

Ever since the internet's inception in 1969 engineers have tweaked it in a piecemeal fashion. That the system has scaled up well enough to handle almost 1 billion users and blazingly fast fibre-optic links is nothing short of amazing. But as the internet has grown, so too have problems such as spam, viruses and "denial of service" attacks that can cripple large websites—not to mention the challenge of accommodating all kinds of new devices, from cars to mobile phones to wireless sensors. "We've pretty much exhausted the tweaks we can do," says Tom Anderson of the University of Washington.

As a result, a handful of the internet's original pioneers, along with a gaggle of young Turks, are now putting their heads together to consider how to fix the network's shortcomings—not by fiddling with a few things here or there, but by starting again from scratch. To this end, America's National Science Foundation (NSF) has launched two initiatives. The first, Global Environment for Networking Innovations (GENI), is a project to build an advanced test-bed network for piloting new protocols and applications. In January the project's leaders produced their conceptual design plan, and they must now lobby for the money to implement it. The second project, Future Internet Design (FIND), will examine how best to equip the internet for the needs of the future. In December, the NSF asked for FIND proposals from the engineering research community, which are due this month.

The aim of these schemes is to prompt academic engineers to think afresh for the longer term. "The challenging question is: can we conceive a vision for what a global communications network will look like in ten or 15 years? To do that, you have to free yourself from what the world looks like now," says David Clark of the Massachusetts Institute of Technology, who helped to design the internet, and now is trying to fix it."The internet is so obvious that it is hard to contemplate what a non-internet would look like," he says.

Visions of the future

That said, it seems reasonable to assume that the number of devices on the network will continue to multiply in new and unforeseen ways. So researchers are starting from the assumption that communications chips and sensors will eventually be embedded in almost everything, from furniture to cereal boxes—"hundreds of billions of such devices", suggested one group of engineers in a working paper last year. And while today's internet traffic is generally initiated by humans—as they send e-mails, click on web links, or download music tracks—in future, the vast majority of traffic may be "machine to machine" communications: things flirting with other things. To further complicate matters, these things will probably be connected wirelessly, and will move around.

Given all these demands, what sort of new ideas have the engineers come up with? It is still early days, of course, and a number of veteran internet engineers are holding back their own proposals in order to encourage the emergence of a younger generation, who might otherwise feel that the initiative was being dominated by the old boys' network, as it were. Still, a few proposals have already emerged.

One is “trust-modulated transparency”. The idea is to enable the network's traffic-routing infrastructure to judge the trustworthiness of packets of data as they pass by. Packets deemed trustworthy would be delivered normally, but dubious packets (from unfamiliar senders, for example) might be shunted aside for screening, just as security guards in office buildings wave through staff but look more closely at visitors. Particularly dubious packets might then be blocked, thus making various kinds of online wrongdoing more difficult. The whole system would be based on a “web of trust”, in which traffic flows freely between devices that trust each other, but is closely scrutinised between those that do not. “The basic, fundamental change is that packet-forwarding decisions are based on levels of trust between sender and receiver, as well as traditional things like optimal path,” says John Wroclawski of the USC Information Sciences Institute, one of the proposal's developers.

Another idea is a new approach to addressing, called “internet indirection infrastructure”, proposed by Ion Stoica of the University of California, in Berkeley. It would overlay an additional addressing system on top of the internet-protocol numbers now used to identify devices on the internet. This would make it easier to support mobile devices, and would also allow for “multicasting” of data to many devices at once, enabling the efficient distribution of audio, video and software.

But how could a new addressing system be tested? Dr Anderson and others have set up PlanetLab, a worldwide experimental overlay network that sits on top of the internet and acts as a testbed for new networking software. Using PlanetLab, researchers can quickly establish a global network of machines in order to test a new approach to packet routing, say, or content distribution. PlanetLab allows many such prototype networks to operate at once, without interfering with each other. One of these “virtualised” networks is in fact a recreation of the internet itself, which can be used to test modifications to the internet protocol.

Yet another proposed feature of a clean-slate internet comes from Dr Clark, who suggests adding diagnostic systems so that users can work out what has gone wrong when the internet fails to perform as expected. Then, when a videoconference call failed to connect smoothly, for example, it would be possible to determine whether the fault lay with the internet service provider or with poorly configured equipment. But the network itself would have to collect and share performance measures, something today's dumb network cannot do.

Today's network is dumb for a reason, however: it was a deliberate design decision. Back in the 1970s, rather than prejudging the kinds of uses to which the internet might be put and favouring some at the expense of others, its designers opted to make it as simple as possible. This open approach is what has made the internet such a vibrant platform for innovation. New applications, such as the web, peer-to-peer file sharing and internet telephony, were later able to emerge even though they were undreamt of back in the 1970s. None of these are explicitly provided for by the internet's underlying design, but neither does it preclude them.

The internet itself stays resolutely dumb, and blindly passes packets of data between devices on the edges of the network, which can then be upgraded to do new things. This non-discriminatory approach is known as the “end-to-end principle”, and it is one of the most cherished aspects of the internet's design. The end-to-end principle has promoted innovation at the edges of the network, but it has necessarily prevented innovation at its core. One possible remedy, which would allow diversity and innovation to flourish within the core of the internet, is the concept of “active networks” or “metanets”.

The idea is that today's routers, the boxes that direct internet traffic, would be replaced with more flexible devices, able to learn new communications protocols when needed. Devices at the edge of the network could then dynamically reprogram all the routers along the network path between them to use whatever new protocol they wanted. The routers would be able to partition themselves internally, so that other users of the network would not be affected. This approach has the advantage that new protocols would then emerge, tailored to applications such as video streaming, file sharing, and new things that have yet to be imagined. The drawback, however, is that routers are able to handle traffic quickly because they are single-minded. Adding complexity to the internet's core infrastructure might end up increasing versatility at the expense of performance—a trade-off not all users would be prepared to make.

Soul of a new network

The idea of metanets also provides an answer to the question of how to deploy a new clean-slate internet. Metanets would, in effect, allow multiple internets to run in parallel. There could then be competition between different protocols; and if one of the metanet protocols turned out to be much more secure, for instance, then security-sensitive users would have a reason to adopt it. Perhaps the clean-slate approach is not quite as esoteric and academic as it seems.

Before a Darwinian internet of competing metanets can emerge, however, engineers must dream up new ideas and devise new protocols, which will take time. And as well as confronting technical hurdles, the engineers vying to redesign the internet will undoubtedly find themselves caught up in social, political and economic arguments. That is because while the internet's existing architecture fosters innovation and promotes free speech, for example, it also allows spam and illegal music downloads to flourish. In reconsidering the technological underpinnings of the network, the engineers will inherently be making choices with far wider implications.

“When ever you design an architecture like this, you're not just designing a technical solution, but also designing an industry structure,” says Dr Clark. It may well transpire that the greatest impediment to upgrading the internet will turn out to be political disagreements over how it should work, rather than the technical difficulty of bringing it about.

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Pulling the plug on standby power

Mar 9th 2006
From The Economist print edition

Energy: Billions of devices sitting idle in "standby" mode waste vast amounts of energy. What can be done about it?

STRANGE though it seems, a typical microwave oven consumes more electricity powering its digital clock than it does heating food. For while heating food requires more than 100 times as much power as running the clock, most microwave ovens stand idle—in "standby" mode—more than 99% of the time. And they are not alone: many other devices, such as televisions, DVD players, stereos and computers also spend much of their lives in standby mode, collectively consuming a huge amount of energy. Moves are being made around the world to reduce this unnecessary power consumption, called "standby power".

As in many other areas of environmental policy, the state of California is leading the way. On January 1st the California Energy Commission introduced mandatory standby requirements for various electronic devices—the first such obligatory regulations in the world. This is due in no small part to the efforts of Alan Meier, a staff scientist at the Lawrence Berkeley National Laboratory (LBNL) in Berkeley, California. In the 1990s he noticed a proliferation in the number of household appliances that are never fully switched off, but spend most of the time in a standby mode, ready to spring into action when needed. The convenience of being able to switch on your television from the sofa using a remote control, in short, has a cost, since some circuits in the television must remain active, watching for signals from the remote control. Added up on a nationwide or global scale, Dr Meier realised, the wasted energy must be staggering. "We're moving from an electromechanical world that's on and off to an electronic world that's never off," he says.

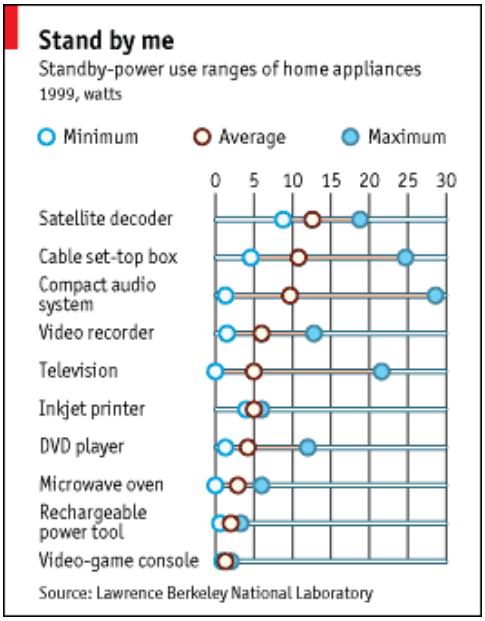
He and his colleagues at LBNL set out to quantify the scale of the problem. In 1998 they released an initial study which estimated that standby power accounted for approximately 5% of total residential electricity consumption in America, "adding up to more than $3 billion in annual energy costs". According to America's Department of Energy, national residential electricity consumption in 2004 was 1.29 billion megawatt hours (MWh)—5% of which is 64m MWh. The wasted energy, in other words, is equivalent to the output of 18 typical power stations.

This figure, however, was based on estimates. So Dr Meier and his team went on to measure standby-power consumption directly, in an empirical study. Their results, published in 2000, revealed that standby power accounted for as much as 10% of household power-consumption in some cases. That same year, a similar study in France found that standby power accounted for 7% of total residential consumption. Further studies have since come to similar conclusions in other developed countries, including the Netherlands, Australia and Japan. Some estimates put the proportion of consumption due to standby power as high as 13%.

J.P. Ross, who took part in the 2000 study while a graduate student at the University of California in Berkeley, was particularly surprised by the variation in standby-power consumption between similar devices (see chart). "One television that I looked at had a minuscule amount, and one had a high standby load," he says. This shows, he says, that "you can still have the functionality without the electricity loss." The problem, as Dr Meier noted way back in 1998, is that there is very little incentive for manufacturers to make devices with low standby-power consumption. And even when they do, there is no easy way for consumers to distinguish between power-hungry devices and more abstemious ones.

Dr Meier and other researchers argue that there is no technical reason

why all electronic devices cannot use the more efficient electrical designs with lower standby-power losses—and thus allow consumers to minimise consumption while maintaining convenience. The worst offenders consume more than 20 watts in standby mode. But nearly all standby functions, Dr Meier insists, can be performed with a power consumption on standby of one watt or less. Using the most efficient designs could reduce average household standby-power consumption by 72%, he calculates. Applying this reduction across the developed nations of the OECD would reduce carbon-dioxide emissions by nearly 0.5% —"equivalent to removing more than 18m cars from European roads," he notes.



Sticks and carrots

So what can be done about the "electronic vampires" that are needlessly consuming so much power? Alas, there is little scope for reducing the inefficiency of existing household appliances, such as microwave ovens—other than switching them off at the mains or unplugging them when not in use, of course. Modifying them to reduce their power consumption is, in most cases, impractical.

A growing proportion of new household devices, however, contain newer, more efficient power supplies. Unlike old-fashioned, chunky power supplies, which contain iron cores surrounded by windings of copper wire, these new power supplies use "switch mode" technology to convert mains electricity to the low voltages used to power small devices. As well as being far more efficient, this can, with the addition of extra circuitry, reduce consumption to a fraction of a watt in both standby mode and "no load" mode (when a power supply is plugged in, but nothing is attached to it).

Power Integrations, based in San Jose, California, provides components for switch-mode power supplies to equipment-makers including Apple, Dell, Motorola, Samsung and Sony. Its president, Balu Balakrishnan, says his firm's components can be found in more than 1 billion devices worldwide. But, he says, switch-mode devices made by his firm and its rivals account for only 20% of the estimated 4 billion power supplies sold worldwide each year. The vast majority are still of the old, inefficient kind, which are cheaper. Equipment-makers do not have any incentive to use more efficient components, after all, since the cost (in higher power consumption) is borne by their customers.

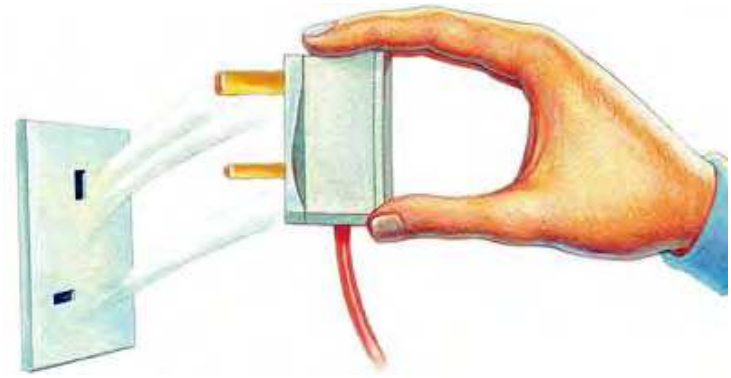
That is why regulators around the world have started to introduce rules designed to encourage manufacturers to make their products less power-hungry. Most of these rules are voluntary: examples include the international Energy Star programme, the European Union's codes of conduct agreed with electronics manufacturers, and the standards laid down by the Australian Greenhouse Office. Of these, by far the best known is the Energy Star scheme, which began in America in 1992 and has since expanded to many other countries. Devices that meet particular standards for energy efficiency are allowed to display a special logo. In 2005 the scheme was extended to external power adapters, which can earn Energy Star approval if they consume less than 0.75W in "no load" mode.

In 1999 the International Energy Agency, based in Paris, adopted Dr Meier's proposed "one-watt" standard as a target for standby consumption. In 2000 Australia became the only country to adopt this standard nationally, in the form of a voluntary scheme that began in 2002. The aim is for most new products to meet the one-watt standard by 2012.

In addition to these various voluntary schemes, there have been some mandatory measures. Perhaps surprisingly, one of them was introduced by President George Bush, as a result of the California energy crisis of 2001. That year, Mr Bush issued Executive Order 13221, which states that every government agency, "when it purchases commercially available, off-the-shelf products that use external standby power devices, or that contain an internal standby power function, shall purchase products that use no more than one watt in their standby power consuming mode." Given that Mr Bush is not renowned for his environmental credentials, this came as quite a surprise to those in the industry.

"It is now illegal in California to sell a television that consumes over three watts in standby mode."

In late 2004 the California Energy Commission went even further by imposing limits on standby power-consumption for various consumer-electronic devices, including DVD players, external power adapters and stereos. This legislation took effect in January, so that it is now illegal in California to sell a television or DVD player that consumes more than three watts in standby mode. Power adapters will be limited to a standby consumption of 0.75W from next year, falling to 0.5W from January 2008. And new limits will apply to stereos and set-top boxes.



Not everyone approves. The Consumer Electronics Association (CEA), an American industry body, argues that the voluntary Energy Star scheme was working well enough already. Douglas Johnson, the CEA's senior policy director, says Alan Meier's one-watt standard is “more of a sound bite than a reasonable policy when it comes to the electronics industry”. Imposing mandatory regulation will stifle innovation and limit consumer choice, he warns. “Industry-led standards are a much better approach for focusing on energy-related efficiency than standards set by government,” he says. Last month the CEA succeeded in having some of the new rules slightly delayed.

But if California's new mandatory rules are a success, they could prompt other regulators to follow suit. In Australia, for example, regulators have always left open the option of applying mandatory standards to devices that consume “excessive” amounts of standby power.

Reducing unnecessary power consumption is not just a matter for device-makers and regulators, however. Consumers can do their bit too, by unplugging infrequently used devices or switching them off at the mains; looking for energy-efficiency logos and modern, efficient power supplies when buying new equipment; and unplugging chargers and power supplies when they are not in use. Even these simple measures are better than just standing idly by.

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Power to the people

Mar 9th 2006
From The Economist print edition

Iqbal Quadir pioneered wider access to mobile phones in Bangladesh. Can he do the same for electricity and clean water?

AS A young boy in rural Bangladesh in 1971, Iqbal Quadir walked ten miles to collect some medicine for a sibling who was unwell. But when he arrived at his destination, the medicine man was not there, so he had to walk home empty-handed, having wasted an entire day. Many years later, having moved to America and become an investment banker, Mr Quadir was reminded of this episode when the network at his New York office stopped working. Without communications, he realised, people are far less productive, whether in a modern office or a rural village; a simple telephone call could have prevented him from making that unnecessary round trip all those years earlier. As he waited for the e-mail to start flowing again, Mr Quadir was seized by the idea that “a telephone is a weapon against poverty”. He decided to dedicate himself to making telephones more widely available to the poor in his homeland. “I didn't know anything about telecoms,” he says. “But maybe that was helpful.”

It was only after having many fruitless meetings with firms and policymakers that Mr Quadir finally hit upon the right approach. He was inspired by Grameen Bank, a Bangladeshi organisation well known for supplying “microcredit”, or small loans, mainly to the rural poor. In a typical example, a woman borrows enough money to buy a cow, and then repays the loan using the profits that result from selling its milk. The loan is repaid, the woman earns an income from the cow, and her neighbours can buy milk. Mr Quadir looked at this model and realised that “a cell phone could be a cow”. He formed a consortium with Grameen Bank and Telenor, a Norwegian mobile operator that provided the required telecoms expertise. He was then able to secure loans from development banks and aid agencies, and won a licence from the Bangladeshi government. GrameenPhone launched its service in March 1997, and today has more than 6m subscribers, making it the country's largest telecoms operator. Bangladesh now has six mobile operators and more than 9m subscribers in what has become a booming market.

Around 200,000 of GrameenPhone's subscribers are “telephone ladies” who provide access to telephony in more than 50,000 rural villages, with a total population of 80m people. Despite accounting for a small proportion of the mobile phones in circulation, these “village phones” account for one-third of the traffic on the network, since they are shared between a large number of users. By making telephony widely available, says Mr Quadir, GrameenPhone has increased the country's GDP by a far greater amount than repeated infusions of foreign aid. Mobile phones promote economic activity, prevent wasted journeys, make it easier to look for work, and widen access to markets. GrameenPhone is not a charity, but a profitable venture: it made net profits of $101m in 2004. Its approach is now being replicated in other countries in Asia and sub-Saharan Africa, including Uganda and Rwanda.

GrameenPhone's success is a striking endorsement of Mr Quadir's unusual approach to promoting economic development. The problem with the traditional top-down approach of supplying developmental aid to governments, he complains, is that it widens the gap between politicians and the people, by increasing the power of central authorities. “The key to economic progress in Bangladesh does not lie in foreign aid, but in the hands and brains of its masses,” he says. “We need to find technologies that can activate those hands and brains for productive purposes.” Using technology to empower citizens from below, as mobile phones do, is a far better way to promote development, says Mr Quadir: “Top-down approaches do not work. The bottleneck is at the top of the bottle.”

Between the geek and the meek

There are historical precedents for this bottom-up approach, notes Mr Quadir, who lectured in technology and economic development at Harvard University's Kennedy School of Government for four years from 2001 and has recently moved to the Massachusetts Institute of Technology, where he is establishing a new programme in development entrepreneurship. In medieval Europe, innovations such as spectacles, water wheels, clocks and printing had the effect of empowering people from below and stimulating economic development, often in the face of opposition from church and state. Similarly, the industrial revolution was the result of entrepreneurial, bottom-up activity, not government planning. Having proven the effectiveness of his approach with GrameenPhone, Mr

Quadir is now working to apply the same combination of technology and bottom-up entrepreneurship in other areas, starting with the supply of electricity. “I see myself as an entrepreneur between the geek and the meek,” he says.

The aim of his new venture, Emergence Energy, is to establish small, neighbourhood power plants in Bangladesh that can provide electricity to a handful of homes, shops and businesses. This time he has teamed up with Dean Kamen, an American inventor best known for creating the Segway electric scooter. During 2005 they conducted a six-month trial in two rural villages in Bangladesh of prototype generators, created by Mr Kamen, based on a design called a Stirling engine.

“The aim of his new venture is to establish small, neighbourhood power plants in Bangladesh.”

The generators can be powered by biogas extracted from cow manure. The idea is that one entrepreneur, funded by a microcredit loan, sets up a business to turn manure into methane gas and fertiliser; another entrepreneur, also funded by microcredit, buys the methane to power the generator, and sells the resulting electricity. This will, Mr Quadir hopes, unleash all kinds of economic activity. “Energy gives you the power to empower,” he says.

The trial was intended as a test, to find out what people would use electricity for, and whether there was an economically viable business model. The results were promising: the scheme proved to be technically feasible, there was strong demand for electrical power, and consumers were willing to pay for a regular supply. The main use of electricity was for lighting, says Mr Quadir; using low-power bulbs, each generator, which produces one kilowatt of power, was able to light up 20 households or shops.

This allowed shops to stay open later, enabled students to study for longer hours, and let people enjoy television and other forms of entertainment. Surprisingly, Mr Quadir found that some households already had televisions, powered using car batteries. Such batteries are also used to recharge mobile phones. This suggests that the potential “chicken and egg” problem that there would be no demand for electricity, since nobody owns any electrical appliances, will not arise. Access to a regular supply of electricity should, however, promote the wider adoption of electrical devices of all kinds.

The next step is to mass produce the generators so that the scheme can be launched commercially. Mr Quadir says he hopes to convince a manufacturing company to license Mr Kamen's design and set up a factory in Bangladesh to build the generators. This would have several advantages over simply importing the technology (as happened with the mobile phones): it would create jobs, avoid import tariffs that would otherwise make the generators less affordable, and the resulting transfer of technology and skills would ensure that the machines could be fixed by locals, rather than having to rely on foreign technicians.

To finance the purchase of the generators by entrepreneurs, Mr Quadir is working with BRAC, another microcredit lender. The generators will cost several thousand dollars, far more than a mobile phone. But microloans are already being used to finance larger purchases, such as houses, says Mr Quadir, so he is confident that the microcredit model can be applied to the new venture. The result, as entrepreneurs start to install generators in villages, will be to produce electricity, fertiliser and jobs.

Bubbling up

At the same time, Mr Quadir is pursuing two other bottom-up initiatives. The first, CleanWater, is dedicated to supplying safe drinking water to Bangladeshi villages, where arsenic contamination is a grave problem. Rather than relying on aid agencies or governments to install equipment, Mr Quadir hopes to license a chemical preparation that can remove arsenic from water and make it safe to drink. The chemical would then be distributed and sold, like salt, via a network of local entrepreneurs; Mr Quadir estimates that buyers would have to spend around $3 per person per year on the chemical to ensure a safe water supply, which is well within reach of most villagers. Again, this initiative would create jobs, provide a wider societal benefit, and give people the means to solve a serious problem themselves.

The second initiative, developed by Mr Quadir's brother Kamal, is called CellBazaar. The idea is to create an electronic marketplace that can be accessed via mobile phones—a phone-based equivalent of newspaper classified advertisements. If somebody wants to sell a bicycle, for example, they can list it in CellBazaar, where it will be visible to potential buyers, says Mr Quadir. This will also have the effect of making price information more transparent and widely available. The system is designed to be as simple as possible: it will not handle transactions, but will simply put buyers and sellers in contact with each other via mobile phone. It will be possible to access the system using just text messages. Electronic commerce could prove to have even greater appeal in developing countries, where the transport infrastructure is often poor, than in developed ones.

Trying to change things from the ground up is more effective than lobbying authorities, insists Mr Quadir. “Without necessarily introducing enlightenment or new arguments, technology can quietly initiate novel ways of making things or trading them, potentially redistributing economic and political clout,” he says. Just as economists invoke the “invisible hand” of the market, he likes to speak of a technology as an “invisible leg” that can move an

economy from one state to another.

And even when a government adopts a sensible policy, there is no guarantee it will be implemented. Before the establishment of GrameenPhone, for example, the Bangladeshi government's stated policy was to promote universal access to telecommunications; but in practice not much happened. The clear success of GrameenPhone, however, prompted the government to issue more mobile licences, which led to today's thriving market. Technology, in short, makes it possible to change the facts on the ground first, so that government policy can then follow, says Mr Quadir. Power to the people, indeed.

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AT&T and BellSouth

Big is beautiful

Mar 9th 2006
From The Economist print edition

Getty Images

A huge merger highlights the forces reshaping the telecoms industry

Get article background

"THERE'S a lot of reasons to do this," says Edward Whitacre, the boss of AT&T, of his company's $67 billion plan to acquire BellSouth, unveiled on March 5th. The deal will make AT&T, already the biggest telecoms firm in the world, even bigger, increasing its stockmarket value from around $110 billion to around $170 billion. It is just the latest in a series of acquisitions by the tireless Mr Whitacre. In 2005, as chief executive of SBC, he bought AT&T—the whole company adopted the AT&T name earlier this year. The logic of his latest and biggest deal rests, as he points out, on a combination of factors.

First, by buying BellSouth, AT&T wins full control of the two firms' wireless joint venture, Cingular, which is America's biggest mobile operator. This will increase AT&T's exposure to wireless from 28% to 33% of the combined company's revenues, amid a thriving market for cell phones. (Unlike in Europe, where markets are saturated, there is still room for subscriber growth in America, where only around 70% of people have mobile phones.) That will help to offset the decline in the number of fixed lines as some subscribers "cut the cord" and go wireless-only. And despite the smiles this week, the deal resolves growing tension between AT&T and BellSouth over the running of Cingular, notes Andy Belt of Adventis, a telecoms consultancy.

Second, there are substantial savings to come from putting the three firms together. Their three networks can be combined, reducing operating costs; a single network needs fewer staff; BellSouth's long-distance traffic can move from other operators' networks on to AT&T's national network; and the deal will let the merged firm do away with the BellSouth and Cingular brands in favour of the far more powerful AT&T brand, which will reduce advertising costs. Overall, this is expected to result in "synergies" of $18 billion. Some are sceptical, but Mr Whitacre has a history of making mergers work, says Mr Belt.

Bringing the three firms together under the AT&T umbrella will also make it easier for the company to sell "bundles" of services—fixed and mobile telephony, broadband internet access, and television. Around 70% of AT&T's domestic customers buy bundles made up of several services, notes Mr Whitacre. "We mostly sell bundles now," he says. "Customers really want that: we make the product more sticky, and we can give them a better price." Operators like bundles because they discourage customers from switching; customers like them because they pay less and get a single bill.

But the rise of bundling is mainly a response to the cable industry, which already offers television and broadband service, and is increasingly offering telephone services too. This has prompted telecoms firms, in America and elsewhere, to move into television. Both AT&T and BellSouth are building fast fibre-optic networks to pave the way

for television services, and their plans fit together well. The demise of the Cingular brand will also save customers from confusion when they are buying bundles of fixed and wireless services, since the merged firm will be able to offer a single brand and a single point of contact.

The deal must still be approved by regulators—indeed, politics may be AT&T's motive for going ahead with the acquisition just now, suggests Jeff Halpern of Sanford Bernstein, a research firm. If the Democrats win control of Congress in November, AT&T might find it harder to win approval for the deal. That is because telecoms regulation —and, in particular, the subject of "net neutrality"—has become controversial as America revamps its outdated telecoms rules.

Battle for the soul of the internet

The question is whether telecoms operators should be able to offer premium services—such as building "fast lanes" across the internet for video delivery, or charging big websites and content providers fees for faster, guaranteed delivery of their data. Mr Whitacre is one of the strongest advocates of this idea, not least because it would open up new sources of revenue which AT&T could use to pay for its new network. But backers of net neutrality object, saying that to favour some data packets over others would violate the long-standing principle that telecoms operators should promise equal treatment to all traffic that passes over their networks. Allowing operators to play favourites might also hamper innovation, warns Vint Cerf, who now works at Google and is one of the internet's founding fathers.

Last week Ron Wyden, a senator from Oregon, introduced a bill that would prohibit network operators from charging for faster delivery for some content, or favouring some sources of content over others. "Creating a two-tiered system could have a chilling effect on small mom-and-pop businesses that can't afford the priority lane," he declared. This week advocacy and consumer groups warned that AT&T's proposed merger with BellSouth would undermine the openness of the internet.

Mr Whitacre insists that the merger does not threaten net neutrality, and neither do his proposed "fast lanes" for favoured content. These premium services would be available for those who wanted to pay for them—but the internet in its current form would not be affected. "We're not going to block, we're not going to interfere with what's out there today—there are no toll booths," he says. Today, "consumers are all locked into one calibre of service, but consumers should be free to choose what they want." At Senate hearings on net neutrality last month, telecoms bosses insisted that they have no plans to interfere with the internet as it is today.

Last year America's telecoms regulator, the Federal Communications Commission (FCC), approved the merger of SBC and AT&T on condition that the merged firm abided by some basic principles of net neutrality, such as not blocking access to—nor discriminating against—particular sites. Mr Whitacre says he was happy to agree to this, and would happily agree to the same conditions again to win approval for the new merger. But critics say the FCC's conditions are too vague. The question of net neutrality will, as a result, be central to the argument over whether the new merger should be approved.

Another worry is that Mr Whitacre's spending spree is reassembling the old AT&T—the national monopoly that existed before the company was split up in 1984 on antitrust grounds. But the new AT&T exists in a very different world from the old, since it faces growing competition from cable operators, mobile operators, and firms using new technologies such as wireless broadband, voice-over-internet and broadband over power lines. "I think there's more than enough competition," insists Mr Whitacre.

And, of course, AT&T faces rival telecoms firms, notably Verizon, which is now under pressure to respond to the BellSouth deal. It will try to win full control of Verizon Wireless, by buying out its partner, Vodafone (see article); it might also try to bulk itself up by bidding for Qwest, the last of the jigsaw pieces from the break-up of AT&T, or Alltel, a regional operator based in Arkansas. For geographical reasons, however, Qwest might fit better with AT&T. Provided he can win approval for the BellSouth deal, and once AT&T has digested the firm, might Qwest be next on Mr Whitacre's shopping list? "I have no comment on that," he chuckles.

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Vodafone

Not-so-big is beautiful

Mar 9th 2006
From The Economist print edition

The sale of its Japanese unit heralds the end of Vodafone's global ambitions

AFP

Get article background

IT WAS supposed to be a crystal ball, but turned out to be an Achilles heel. Vodafone, the world's largest mobile operator, took control of J-Phone, Japan's third-largest operator, in 2001 with two aims: to exploit Japan's lead in mobile telecoms to boost Vodafone's fortunes elsewhere, and to use Vodafone's global scale to win a larger share of the Japanese market. But J-Phone, which was renamed Vodafone in 2003, instead ran into trouble. Customers began defecting in droves to its two larger rivals, NTT DoCoMo and KDDI, and the firm's market share, which had increased for five years in a row, began to fall. Now Vodafone has confirmed that, having failed to turn things around, it is in talks to sell the unit to Softbank, a Japanese internet conglomerate. The terms of the sale have yet to be agreed, but the price is expected to be around £8 billion ($14 billion).

Vodafone's share price, at its lowest for two years, jumped by 10% in response to the news. For months, investors have been pressing Arun Sarin, the company's chief executive, (pictured), to pull out of Japan, a unique market where Vodafone's unrivalled scale counts for very little. The company has done well transferring the best aspects of the Japanese industry-model to other markets, but the second part of its plan—to move the Japanese business over to the same 3G technology (called UMTS) that is used in Europe, so as to benefit from economies of scale—was a disaster. Consumers were unimpressed by the lacklustre selection of handsets, and Vodafone had to launch a new range of Japan-specific phones to halt the exodus of subscribers. In doing so, it undermined its own argument about economies of scale.

Furthermore, Vodafone faces increasing competition in Japan, where new rules will come into force in November to allow subscribers to keep their phone numbers when switching between mobile operators. Given Vodafone's weakness, this is widely expected to assist its rivals. In addition, the Japanese government has recently issued three new mobile licences, one of them to Softbank, to make the market more competitive. Again, this spelled trouble for Vodafone. So Softbank's offer looks all the more appealing.

On the domestic front, the prospect of a deal may help to relieve some of the pressure on Mr Sarin, who has been on the defensive for months. Slower-than-expected growth has prompted a string of profit warnings and led, on February 27th, to the announcement of a planned writedown of up to £28 billion in goodwill, mainly associated with the acquisition of Mannesmann in 2000. Meanwhile, rumours fly about rows between today's management and the old lot, led by Sir Christopher Gent, Mr Sarin's empire-building predecessor. On March 8th, Vodafone announced the departure of Peter Bamford, its head of marketing, and the last senior executive closely associated with Sir Christopher. Mr Sarin's position may also be strengthened by the return of much of the proceeds of the Japanese sale to shareholders, which should mollify investors.

The significance of the sale extends beyond the shifts in the Japanese market, however, or the grumbling about Mr

Sarin's leadership. Selling its Japanese unit would signal a definitive end to Vodafone's famous (but now much criticised) “big is beautiful” strategy. Instead, Mr Sarin has hinted that he plans to pursue a more focused regional strategy in Europe, where Vodafone can best exploit its scale.

This would also entail selling Vodafone's 45% stake in Verizon Wireless, its joint venture in America—which is, like Japan, a distinct market where Vodafone has been unable to exploit its size. “Selling European handsets in Japan hasn't worked, and there are no synergies in the US, which uses a different technology,” says Damien Chew at ING, an investment bank. “So maybe they should pursue a regional strategy.” The planned merger of AT&T and BellSouth means Verizon is keener than ever to buy Vodafone out, at an estimated cost of £25 billion.

Some analysts believe a far more radical change in strategy is needed. “Vodafone's problems cannot be solved by disposing of underperforming overseas assets,” says Cyrus Mewawalla of Westhall Capital, a stockbroker. “Management need to focus on the bigger picture—their business model is about to be destroyed by the internet.” Vodafone should, he says, move from a “pure mobile” strategy to a “converged services” model that includes fixed-line services such as broadband internet access and television—in short, just the sort of thing championed by AT&T. Yet not long ago, AT&T was the dinosaur and Vodafone represented the future.

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Corporate mergers

The gasman cometh

Mar 9th 2006 | FRANKFURT
From The Economist print edition

Linde buys BOC, with a little help from its friends

Get article background

COULD Linde, a German producer of industrial gases, have clinched a takeover of BOC, its bigger British rival, for around €12 billion ($14.4 billion) without the help of Deutschland AG? That is the name commonly applied to the cosy meshing of finance and industry that for decades gave corporate Germany its legendary strength.

Three big German financial institutions, which are simultaneously Linde's main shareholders, and two other banks, will lend more than €15 billion to bridge the BOC takeover. It seems like a reversion to type in Germany, which has lately become more the hunting ground of private equity and other creative forms of finance.

But the story is more complicated than that. Deutsche Bank, Commerzbank and Allianz (which owns Dresdner Bank) together own 32% of Linde. All three institutions have been steadily selling their industrial holdings since 2001 when capital gains tax became more favourable. But they hung on to Linde, mainly because the complex conglomerate, with refrigerators, forklift trucks and gas-making in its portfolio, needed restructuring.

Wolfgang Reitzle, Linde's chief executive since 2003, sold the fridges, bought AGA, a Swedish gas specialist, and steered the firm towards becoming a “pure gas play”. BOC and Linde had been talking for years, they even have a joint venture in America, but until last year the takeover could easily have been the other way round. At one point in 2003 Linde had a market capitalisation of a mere €2.7 billion. Today it is worth €8.6 billion.

But buying BOC still requires an ambitious piece of financing. Helpfully, financing of high-grade corporate debt is cheap at the moment. And selling Linde's forklifts division at a later date could raise €4 billion. BOC rejected Linde's first approach in January, but accepted an improved offer that includes making good BOC's £500m ($870m) pension deficit.

The deal seems to make sense. The two companies fit together with almost no overlap, except in the United States, where they will merge headquarters, and in Poland. Linde is strong in continental Europe, BOC strong in Britain, America and Asia. The two firms, which have had difficulty serving their biggest customers at all points of the globe, will find it easier now they are in tandem. Although the merger is subject to antitrust scrutiny, few disposals are expected.

Linde will emerge from the deal with lots of debt. But its cashflow and the disposal of its materials-handling business should reduce that quickly, says Mr Reitzle. There remains the question of Linde's shareholder structure. The big three banks, which are both lenders and shareholders, and are represented on the supervisory board, will have the classical conflict of interest seen in the old Deutschland AG. Since their declared intention has been to sell their industrial stakes, they should do so sooner rather than later.

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Animal copyright

Put a fiver in his bank

Mar 9th 2006 | LOS ANGELES
From The Economist print edition

Advertising Archives

Should advertisers pay animals?

ADVERTISERS pay child actors to slurp up a breakfast cereal; they pay musicians and composers for the soundtrack; they pay sports stars to endorse energy drinks; they even—witness Bob Dole's endorsement of Viagra—reward the occasional politician. So why should animals go unrecognised? After all, cheetahs help sell fast cars; tigers have posed for petrol companies; eagles appear on credit cards; and a whale cavorts on behalf of the Pacific Life insurance company.

Gregory Colbert, a Canadian film-maker whose extraordinary exhibition “Ashes and Snow” examines the relationship between humans and animals, is one of those who reckons animals are as entitled as humans to benefit from their “intellectual property”. To try to ensure that our furry friends get their fair share, Mr Colbert is setting up an Animal Copyright Foundation. From January 1st next year, the foundation hopes to “collect one percent of a media buy, including print, broadcast and internet, that uses animals”. It will then distribute 99% of the money collected to conservation projects around the world. Given that ZenithOptimedia estimates next year's global advertising expenditure at almost $452 billion, the animal kingdom could theoretically become rich.

But will it happen in practice? Mr Colbert is a persuasive man (he got Rolex to bankroll “Ashes and Snow”—now in Santa Monica after Venice and New York—in its tour of the world). But what he is counting on is peer pressure in the corporate world and consumer support: an “Animal Copyright” symbol on an ad campaign, he says, “will serve as a constant reminder that when we take something from nature, we are obliged to pay it back.” And if it looks cute enough, it might even persuade consumers to pluck a product off the shelves.

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E-commerce

Bricks online

Mar 9th 2006
From The Economist print edition

House sales go online

ALMOST every firm on the high street is having to grapple with the implications of the internet. Many have expanded successfully online. Now it is the turn of estate agents to show their determination to extend their grip to internet property sales. Leading the way is Rightmove, Britain's leading property website, which intends to list on London's stockmarket next week. The six-year-old dotcom is expected to be valued at around £400m ($690m).

How does an online-listings service help estate agents, which already have swarms of offices in Britain's town centres? Part of the answer is that Rightmove displays only properties from estate agents, letting agents and new-home developers. It has left the market for people trying to sell their own homes directly to other websites. Most buyers and sellers, it seems, prefer to use an agent: Rightmove says that it now lists around seven out of ten of all properties for sale in Britain. Its revenues grew by 98% last year, to £18.2m.

Instead of clobbering estate agents, the internet is hurting local newspapers. The papers are seeing their classified-advertising revenue for homes, cars, travel and jobs dwindle as more of it moves online. Some newspaper groups have been buying up websites in the hope of recapturing some of this revenue. But Rightmove is determined to stay out of their clutches. Its founding shareholders are all linked to the property business and include Countrywide, one of the biggest estate-agency chains. The existing shareholders are expected to retain a majority of the company's shares, some of which will also be offered to estate agents using the service.

Rightmove charges a flat fee of £250 per month for each office in an agent's chain to list all the property on its books. Some estate agents spend ten times that amount every month advertising in local newspapers. The company is also hoping to expand into the business of helping sellers provide “home information packs”, a sort of mini property-survey, which becomes mandatory in England and Wales in 2007.

America's leading property website, Realtor.com, is also linked to property agents: it is the official site of the National Association of Realtors, as Americans call their estate agents. Despite predictions a decade ago that the internet would slash its membership by half, the association says its numbers are growing rapidly. It reckons that last year 77% of American home buyers used the internet to search for a property, but most of those people then also used an agent to arrange property viewings and to buy.

As with other e-commerce businesses, building scale is proving to be critical online. The more sellers that flock to a particular website, the more potential buyers it attracts, which in turn attracts more sellers. It is the same principle that has powered eBay to the top of the online-auction business. However, it is yet to be seen if any of the traditional media groups will be able to create such a virtuous circle in their own online forays.

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Online music

Your fix or mine?

Mar 9th 2006
From The Economist print edition

Apple's fight with the music industry now involves the competition authorities

Get article background

COMPARED with Hollywood, publishing and the rest of the media industry, the music business has always been disreputable: its artists get arrested, music charts are rigged and two leading companies recently got caught bribing radio stations. Now it seems that big music companies may also be illegally conspiring to fix prices on the internet. Last week America's Department of Justice opened an inquiry into "the possibility of anti-competitive practices in the music-download industry."

The department's action is the second investigation into possible price collusion in music-downloads in America: in December 2005 Eliot Spitzer, New York's crusading attorney-general, announced a similar inquiry. But nearly nothing is known about exactly what practices prompted the investigations.

What has probably happened is that Mr Spitzer and the Department of Justice have been dragged into a massive public row between the music industry and Apple, a computer-maker which has 83% of the market for music downloads through its iPod music players and iTunes download service. The music majors want Apple to stop charging a fixed price of 99 cents per track and $9.99 for an album. They want variable pricing, so that new releases can be priced higher than older stuff.

The music companies will soon have a chance to get their way. Their contracts with Apple are up for renewal from April onwards. They will presumably tell Steve Jobs, Apple's chief executive, that he cannot have their music unless he pays them more than the 65-75 cents they get now. That could force Apple to raise its retail price. The music firms' strongest position, of course, would be to present a united front. That three of the big four—Sony BMG, Warner Music and EMI—are all saying roughly the same thing about Apple's pricing has aroused the suspicion that they may be colluding, says a Washington lobbyist. The music labels reckon that the Digital Media Association, which represents Apple, among others, has complained to the Department of Justice.

Mr Jobs says that the majors risk stifling the new market, and also that they are plain greedy. The charge of greed is unfair. Although digital music sales tripled in 2005 to $1.1 billion, the music companies are hardly raking in the cash from music downloads. There are two problems. First, people are downloading more single tracks than albums, which means lower revenues for the majors. Second, they are mostly filling their new iPods from their CD collections, not from iTunes. For the music giants, it may well be worth risking another run-in with the law, if that means they can make downloading truly profitable.

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The car industry

Driving into traffic

Mar 9th 2006 | GENEVA
From The Economist print edition

America's and Europe's biggest car companies are stuck in the same place—and all looking for a way out

RICK WAGONER, chairman and chief executive of General Motors, the world's largest car company, has arguably the worst job in the world. As GM staggers from one crisis to another, its Asian and European competitors continue to munch into its market share in the United States. Mr Wagoner has to slash capacity to meet his firm's falling sales, while simultaneously revitalising product development so that GM can make new cars that customers might buy. He needs to close about a dozen factories and shed 30,000 workers. But his hands are tied: every time GM shuts a plant, the workers go into a "jobs bank", where they earn nearly full pay for doing nothing.

Yet listen to Mr Wagoner talk about the tasks at hand, and one is struck by the calm, almost statesmanlike, tone of his discourse. No, it is not the worst job in the world, he says, but it may be the most challenging: "It's important work. We need to execute our plan. We need to trade on our relationships, notably with the unions, which are still constructive." GM is nearing agreement in a three-way negotiation with Delphi, a bankrupt parts-maker that it once owned, and the unions, led by the United Auto Workers. The goal is to renegotiate deals struck in more affluent times so as to "reduce the negative impact of the jobs bank", as Mr Wagoner tactfully puts it. He wants an agreement to shift the redundant workers off the payroll into early retirement. He might be a European manager tip-toeing around a social democratic labour culture.

By contrast, the bosses of Volkswagen—Europe's biggest carmaker—sound for all the world like hard-nosed North American managers. VW faces GM-like problems of high costs and overcapacity. But its bosses have struck a much more confrontational tone. Wolfgang Bernhard, who runs the Volkswagen brand business, says bluntly that high wages in Germany mean that "we are uncompetitive by at least 40%." Although this week VW announced increased profits of €1.12 billion for 2005, the firm is losing money in both North America and Asia. Hence the noises emerging from VW's Wolfsburg headquarters of possible job cuts of around 20,000 positions, over the next three years. "This figure is not an issue or a debate. It is a fact, a necessity," declared Mr Bernhard last week.

Such bluntness about job cuts is causing tensions all the way up into the boardroom. Ferdinand Piëch, the enigmatic chairman of the company's supervisory board, has let it be known that the future of Bernd Pischetsrieder, VW's chief executive, is uncertain because the union representatives on the supervisory board seem to oppose the renewal of his contract. Mr Pischetsrieder has publicly rebutted the idea that he might have to resign.

If VW and GM have adopted very different rhetoric in dealing with surplus capacity, they—like many of the world's biggest car companies—seem to be forging a similar approach to product development. In the 1990s VW pioneered the strategy of expanding its product range, by building Skodas, Golfs, Audis and Seats all on the same chassis and underpinnings. But that led to similar boxes with different badges and Mr Pischetsrieder's new line is that —"platforms are out, it's now about modules". This means mixing and matching components so that the same engineering and parts can be combined like Lego to produce a wide range of different vehicles.

Carl-Peter Forster, who runs GM Europe following a similar strategy, borrows a term from the computing industry, calling it the "age of plug and play," adding that he has "abandoned platforms." Helmut Panke, boss of BMW, says the need is to expand the product range because markets are changing and because "we need to seek new niches". For this, he says, "we need modules for flexibility".

A bolder approach to the problems of overcapacity is obvious at Renault. Flushed with the triumph of returning the French company $25 billion from its $5 billion investment in Nissan seven years ago, Carlos Ghosn is now running both companies with the aid of the internet and an executive jet. He aims to boost sales by 800,000 over the next few years, thereby mopping up spare capacity, avoiding the need for politically-painful job cuts and restoring Renault's thin profit margins. Mr Ghosn has huge credibility after the turn-round he effected at Nissan. But much of the expansion is supposed to come in larger-premium saloons on the edge of the luxury market, where Renault has failed time and again.

The ever-ebullient Mr Ghosn is unabashed: "Nowadays," he says, "you have to be present in every single part of the market." If you are successful in the premium end, he contends, the return is huge. Mr Ghosn points to the profits made by Toyota, Nissan and Honda in the past 15 years, since they went into luxury models.

While the volume car producers are moving upmarket, the luxury producers are reaching down. BMW first tried with Rover, and has now succeeded with the Mini brand it retained when it abandoned the rest of the British manufacturer. Mercedes persists with its struggle to make money out of its small A-class and Smart brands, after years of trouble and losses. Everybody seems to think that everyone must compete with everyone, everywhere. It is a recipe for congestion.

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Face value

New ways to run a railroad

Mar 9th 2006
From The Economist print edition

Reuters

Hartmut Mehdorn's vision for Deutsche Bahn includes seaports, cars and bicycles

FROM the top of his skyscraper on Berlin's Potsdamer Platz, Hartmut Mehdorn likes to train his binoculars on another vast edifice a kilometre away. This is Berlin's new *Hauptbahnhof*, or central station, a huge glass-clad railway hub, 14 years in the making, that will link all intercity and regional trains from east, west, north and south. It has to be finished by May 26th when Angela Merkel, the German chancellor, will preside over a grand opening—just weeks before the start of the 2006 World Cup, which Germany is hosting. The world's football fans will use the services of Deutsche Bahn, Europe's biggest railway, to travel between the 12 cities that are staging matches.

Germany's enduring ability to make the trains run on time should impress visitors. Businessmen and investors, however, may be impressed by something else that Mr Mehdorn has done with Deutsche Bahn. He has taken a huge state-owned railway system, successfully diversified it into other related businesses, and made it profitable. The managers of America's famously troubled Amtrak system, or of Britain's controversial privatised railways, would love to be able to say the same.

Running Deutsche Bahn has been one long battle for the pugnacious Mr Mehdorn. A stocky Berliner, his goal was to turn the Bahn from a heavily subsidised, state-owned railway into a self-financing "mobility provider". His style has made him unpopular with some politicians—the mayor of Berlin recently accused him of planning a "deal made in the madhouse" with the City of Hamburg. But his unfussy bluntness has also won admirers. Despite the halving of the company's workforce over the past 11 years, he is regarded as a boss who cares. It helps that his pay—rumoured to be €650,000 ($767,000) a year—is modest by fat-cat standards. He also has little time for elaborate public relations. He makes no secret of his love for driving—cars not trains—and says frankly that if it makes more sense to take the plane than the train, that is what he will do.

Mr Mehdorn's adventures with Deutsche Bahn began when he joined as chief executive in 1999, after a career at engineering firms. Through a strategy of acquisition and diversification, he has transformed the group into Europe's biggest rail-freight operator, Germany's biggest bus operator, and the world's number two in airfreight and number three in sea-freight. Deutsche Bahn has just bought Bax Global, an American logistics firm, for $1.1 billion, adding it to Schenker and Stinnes, two German logistics firms which Mr Mehdorn acquired in 2002. The firm is also making more imaginative use of its own technology—it is hoping to sell its digital-radio-network technology to the federal police and emergency services. With car-sharing, multi-storey car parks at stations and even bicycle hire added to its portfolio under Mr Mehdorn, Deutsche Bahn is sending the message that rail is only one part, albeit the core, of the services it provides. Some 34% of the firm's turnover is now outside Germany, and nearly half (46%) of its overall turnover is non-rail.

Mr Mehdorn is spurred by the example of Deutsche Post, whose McKinsey-bred management has turned it from a sleepy sorting office into a global logistics firm. But he also sees no alternative to diversification beyond rail, given

the protectionism in Europe, which would otherwise constrain Deutsche Bahn's growth. Despite a 1991 European Union directive which set targets for inter-operability between national rail systems, little progress has been made. “Imagine if a truck driver had to put in different fuel, change the position of his headlights, and speak the native language every time he crossed a border in Europe, that's what it's like for trains,” fumes Mr Mehdorn. A dozen different types of fire extinguisher are specified across Europe. In Scandinavia every train must carry a gun on board, in case of reindeer. Only recently, after years of wrangling, did Deutsche Bahn and SNCF, its French counterpart, finally agree on streamlining the vital link between Frankfurt and Paris.

Cargo trains imprisoned by national borders cannot make money, Mr Mehdorn says. Only because of its diversification was Deutsche Bahn able to turn its first profit, of €154m ($181.7m) in 2004, 11 years after it became a (state-owned) joint-stock company. Profits for 2005, not yet announced, are expected to be above €400m. Although the German railway system as a whole is still heavily subsidised—particularly municipal railways—Deutsche Bahn says it is now free of the need for subsidy.

All aboard for privatisation

Its long-distance and regional passenger routes are certainly profitable. But Mr Mehdorn's critics point to the sluggish growth of rail use. The Bahn scored an own-goal in 2002 by trying to sell tickets with demand-driven pricing—like a low-cost airline—misjudging totally the value its customers placed on flexible rail travel. Passengers deserted in droves. It took until last year to claw numbers back to 1999 levels. Mr Mehdorn insists there is lots of growth potential—half the German population does not yet use rail. Overall rail usage rose by 26% for passengers and 39% for freight between 1993 and 2005, he points out.

Mr Mehdorn may have convinced himself; but his job is to convince investors and politicians that Deutsche Bahn will be fit to sell some of its shares, perhaps 20%, in two or three years' time. Opinions are deeply divided on how the deal should be structured. Mr Mehdorn insists on an “integrated” solution in which Deutsche Bahn keeps ownership of the tracks. Others argue that control of the tracks stifles competition and, anyway, would make the Bahn impossible for investors to value.

A decision on the privatisation is likely to come this summer. Because of Germany's financial plight, the need to raise cash may weigh more heavily than a desire to do the very best by Deutsche Bahn. After all that Mr Mehdorn has done to get the business into shape, that would be a real pity.

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Shareholder democracy

Battling for corporate America

Mar 9th 2006
From The Economist print edition

Who will come out on top in the renewed struggle between shareholders and managers?

SO MUCH, then, for the irresistible rise of the imperial shareholder. Only the other week, the attempt by Carl Icahn, a billionaire corporate raider, and some hedge funds to win control of the board of Time Warner and break up the media conglomerate had prompted Martin Lipton, a veteran Wall Street lawyer, to complain that “we have gone from the imperial CEO to the imperial stockholder”. The result, he predicted, would be disaster for the American economy. If rampaging shareholders scared bosses into short-term decisions, their companies would fail to make potentially crucial long-term investments.

But now Mr Icahn and his allies have accepted defeat, reaching a barely face-saving agreement with Time Warner's management. Does the imperial shareholder have no clothes? The previous time that Time Warner was at the centre of a fight for control between shareholders and management, the result helped to determine the balance of power for a generation.

In 1989 the supreme court of Delaware, where most big American companies are incorporated, judged that Time's directors could “just say no” to a $200-per-share hostile bid from Paramount, forcing shareholders to accept a $138-per-share friendly bid from Warner instead. Thus encouraged, and assisted by Mr Lipton's creative advice, bosses spent the next few years entrenching themselves against the whims of the owners of their companies, adopting anti-takeover “poison pills”, staggered elections of board members and so forth.

It is too soon to conclude that Time Warner will be a bellwether this time, too, but Mr Icahn is not fighting alone. Last month, Kirk Kerkorian, who at 88 makes 70-year-old Mr Icahn seem like a novice, secured his lieutenant, Jerome York, a place on the board of General Motors. Ralph Whitworth, another veteran activist, is embroiled in a gruelling fight with the management of Sovereign Bank, which is pursuing a merger strategy that he regards, with good reason, as wasteful.

Inspired by the old guard, and under growing pressure to boost their returns, a host of younger hedge-fund managers are becoming activist shareholders, too. Having persuaded Wendy's, a burger chain, to put three of his partners on its board and to spin-off a subsidiary, Nelson Peltz, billionaire boss of Trian Partners Master Fund, based in the Cayman Islands, is trying for five seats on the board of Heinz, a struggling food group. (One is for Greg Norman, a former golfing champion known as “the Shark”.) William Ackman of Pershing Square Capital Management has been harrying the management of McDonald's. Knight Ridder, a newspaper group, has cut jobs and is considering selling itself under pressure from Bruce Sherman of Private Capital Management. Jeff Larson of Sowood Capital Management is challenging the price at which Tommy Hilfiger, a clothing firm in which it has a stake, is being sold to Apax Partners, a private-equity firm. And so the list goes on.

Even more troubling for corporate bosses, these activists are increasingly able to hire Wall Street's top lawyers and investment bankers, who until recently felt that their business interests were best served by loyally supporting

incumbent management. Sullivan & Cromwell, a leading law firm, is working for Mr Whitworth's Relational Investors in the Sovereign battle. Lazard, headed by Bruce Wasserstein, formulated the detailed plans for breaking up Time Warner proposed by Mr Icahn. Hedge funds are now a big source of business for banks such as Morgan Stanley and Goldman Sachs. They are loth to upset such lucrative clients by refusing to support their activist adventures.

Corporate bosses are also steeling themselves for an unusually tough “proxy season”, the annual round of shareholder voting that is now getting under way. Shareholders have been stung by their apparent defeat at the hands of pro-management lobbyists late last year, when the Securities and Exchange Commission (SEC), the main market regulator, put on seemingly eternal hold its (fairly timid) attempt to help shareholders propose candidates for election to the board. As a result, shareholders will vote on a bumper crop of resolutions designed to give themselves greater power over who sits on the board. Almost as common are resolutions about executive pay, most of which seek to tie it more closely to performance.

Managers may see this as a sign of worse to come. Christopher Cox, the SEC's new chairman, has proposed rules requiring the fullest possible disclosure of executives' compensation. His political skills are expected to ensure that the new rules will be implemented largely intact.

This assault from shareholders comes at a time when bosses see themselves as under fire from all directions. The American public has turned against them since the dotcom bubble burst and Enron and WorldCom collapsed scandalously, and because their pay continued to soar. They are besieged by lawyers—from the federal Department of Justice via state attorneys-general, such as New York's dreaded Eliot Spitzer, to class-action jackals such as Milberg Weiss—who seem determined to take away their money and put them in jail. They are weighed down by the red tape of the Sarbanes-Oxley act, rushed into law by Congress after WorldCom. Even Mr Lipton's poison pills may be losing their potency. After PeopleSoft fell into the unwelcome clutches of Oracle last year, can any company any longer “just say no” to a hostile bid that is strongly supported by its own shareholders?

There is much at stake. Yet Mr Lipton was clearly exaggerating the extent of the threat to corporate management's power, even before Mr Icahn's Time Warner campaign ended badly. Sarbanes-Oxley has certainly been unnecessarily costly and bureaucratic, and was quite possibly unjustified, but it has not been the disaster that was predicted. Only a trickle of top corporate executives have sought refuge in private equity, not a flood. Lobbyists in Congress are receiving an attentive hearing as they seek to soften the worst aspects of Sarbanes-Oxley, especially section 404 on internal controls.

Meanwhile, plenty of lawyers think PeopleSoft could have retained its independence were it not for the unfortunate public statements of Craig Conway, its then chief executive, who strongly suggested that the board had given no serious consideration as to whether Oracle's offer was good for PeopleSoft's shareholders. Sovereign Bank has fought back against Mr Whitworth, not just by postponing its annual shareholder meeting until at least September, but also by persuading lawmakers in its home state of Pennsylvania to rush through new management-friendly legislation.

Executives continue to take home enormous pay packets, seemingly regardless of whether they succeed or fail. “Excessive executive pay is the symptom, weak corporate-governance is the disease,” says Nell Minow of the Corporate Library, an online database of corporate-governance information. And, above all, despite the effort that shareholders are putting into the proxy season, the board is in reality under almost no obligation to take any notice of how shareholders vote.

The myth of shareholder democracy

The governance of American companies is built on the democratic principle of one share, one vote—much like Britain, Australia and a growing number of countries that are gradually embracing the “Anglo-Saxon model” of capitalism. And yet in practice one vote can do so little, even when it is on the side of an overwhelming majority of the votes cast—particularly in America. As Bob Monks, a shareholder activist, puts it, “the American shareholder cannot nominate directors, he cannot remove them, he cannot—except at the arbitrary pleasure of the SEC—communicate advice to them. Democracy is a cruelly misleading word to describe the situation of the American shareholder in 2006.”

To be precise, a shareholder can nominate directors, but to do so it has to hand out a separate proxy paper, containing only its candidate, and secure more votes than the official slate of board candidates on the proxy distributed by the board. This is costly, because of both the distribution of the proxy and also the campaigning for candidates. By contrast, official nominees' campaigns can be paid for out of corporate funds. That is why there are so few contested board elections.

As a result, boards tend to be stuffed with the creatures of the chief executive, who one way or another gets the people he wants nominated, reckons Lucian Bebchuk of Harvard Law School, the chief academic advocate of changing the rules to make shareholder democracy more effective. In a recent paper, “The Myth of the Shareholder Franchise”, Mr Bebchuk noted that during 1996-2004, incumbents faced rival slates from candidates

seeking to run the firm as a stand-alone entity on only 108 occasions—about 12 companies a year (see chart). Companies with a stockmarket value of more than $200m (still quite small) endured just 17 such contests, only two of which were successful.

Nor is it easy for shareholders to remove an official nominee for the board by casting their votes against him. Under today's rules, only votes in favour count: votes against or withheld are ignored. Under this "plurality" system, a single supporting vote may get a director elected. This system came under scrutiny in 2004 when 45% of the votes cast by Disney shareholders did not support the re-election to the board of the entertainment firm's then boss, Michael Eisner. Those who favour greater shareholder power can take some comfort from the fact that this marked the beginning of the end for Mr Eisner at Disney—though he and his board would have been fully within their rights to ignore this almost unprecedented shareholder rebellion.

Introducing majority voting is the aim of many of the resolutions being filed by shareholders in this proxy season. Ballots for majority voting will be held at 119 companies, according to Richard Ferlauto of the American Federation of State, County and Municipal Employees (AFSCME), a union with an activist pension fund that is seen as the leader of this campaign. Intriguingly, some companies tried to take the heat out of the campaign by offering to adopt a voluntary "director resignation" policy. Although the existing voting system would remain in place, a candidate receiving less than 50% of votes cast would offer to resign.

Shareholder activists such as Mr Ferlauto are unimpressed. The trouble is, as Mr Monks has observed, even if shareholders vote overwhelmingly for these resolutions, the board can ignore them. Most of the shareholder resolutions on the proxy are "precatory"—that is, advisory only. Boards have a long record of ignoring such advice. For example, points out Mr Bebchuk, in 1997-2003, 131 resolutions to abolish staggered boards received a majority of the shareholder votes cast. By late 2004, less than a third of those resolutions had been acted on.

It is easy to see why boards might choose to ignore even overwhelming shareholder votes in favour of majority voting: after all, shareholder activists such as Mr Ferlauto have made it clear that, as they try to crack down on executive pay, they will also campaign for votes against the chairmen of board compensation committees.

Moreover, boards have considerable discretion over which resolutions to allow on to the proxy. Shareholder resolutions are not supposed to interfere with boards' autonomy to take ordinary business decisions. There is some right of appeal when a resolution is turned down. But this can be a lottery, as Mr Monks discovered. He tabled essentially identical resolutions in successive years at Exxon Mobil, which the oil company's board rejected. Having twice overruled the Exxon Mobil board—allowing the resolution to win more than 20% of votes cast each time—the SEC last year decided to back the board.

This year AFSCME is also trying to win shareholder support at three firms—Honeywell, Wells Fargo and Qwest—for binding resolutions that would introduce majority voting by changing company by-laws. This is a fiddly process, with lots of tricky details, compared with the usual precatory motions. But, if successful, it could allow not just majority voting, but also the right of shareholders to put candidates for the board on the company proxy. Recently Intel and United Technologies announced that they will amend their by-laws to introduce majority voting. On the other hand, last year the SEC allowed the board of AIG, a big insurer, to exclude from its proxy a resolution to change its by-laws in favour of majority voting. This decision is now being challenged in court by AFSCME, supported by five Harvard lawyers, including Mr Bebchuk.

The case against more democracy

It is not just self-interested board members and Mr Lipton who are suspicious of the rise of shareholder power. Even among academic lawyers, Mr Bebchuk is in a minority. In a forthcoming issue of *Harvard Law Review*, his proposals for increasing shareholder power are attacked by Stephen Bainbridge of the University of California, Los Angeles and by Leo Strine, an influential Delaware judge.

Mr Bainbridge argues that the separation of shareholders and managers, under the central authority of the board, is part of the genius of American capitalism. Managers need the space and discretion to be able to go about the business of wealth creation. The law is designed to help them make good-faith business decisions with the speed and efficiency that modern commerce demands and free up managers to manage. Giving more power to shareholders would start to interfere with this freedom, he argues. That would be a pity given how successful American business has been over the years, especially compared with other models of governance giving a greater role to shareholders. Why ruin things by increasing shareholders' power, which might be abused by investors with political motives rather than economic ones? Mr Bainbridge reckons that the shareholders most likely to use greater voting muscle are the state-employee and union pension funds.

Mr Strine argues that, while the case made for more shareholder democracy is fine in theory, in practice shareholders may not deserve it. That is because the majority of them are intermediaries, such as pension funds and mutual funds, which have governance problems of their own that may lead them to act against the interests of the people whose money they are investing—the true long-term owners of corporate America. The many conflicts of interest of the shareholding institutions are described in gory detail by John Bogle in a new book, “The Battle for the Soul of Capitalism”. “Many of these institutions, which now own two-thirds of the shares of corporate America, are fundamentally failing in their fiduciary duty,” says Mr Bogle, who founded Vanguard, a mutual-fund company that pioneered low-cost index funds.

What of the newest kids on the shareholder block, the hedge funds? Messrs Bainbridge and Bogle, and Mr Strine, are sceptical, suspecting they may be too focused on the short term to care much about their long-term impact on firms. The hedge funds' case has not been helped by behaviour such as that of Perry Capital which in 2004 bought shares in Mylan Laboratories only in order to vote in favour of its acquisition of King Pharmaceuticals, in which Perry was a big shareholder. Perry hedged its exposure to movements in Mylan's share price, and was thus able to exercise its voting rights without having any apparent exposure to the consequences. The SEC has been looking into whether this was illegal—even though the deal was eventually scuppered by the intervention of Mr Icahn.

Certainly, such behaviour “stretches what it means to be a shareholder”, says William Goetzmann, an economist at Yale University. On the other hand, unlike politically motivated shareholders, hedge-fund activists are at least interested in driving up the share price of the companies to which they turn their attention, points out Steven Kaplan, an economist at the University of Chicago's business school.

Moreover, politically motivated shareholders and hedge funds are likely to gain any real power over management only if they can persuade the usually passive majority to support them. With the purely politically driven, this seems highly unlikely. If a hedge fund succeeds in winning the backing of a majority of shareholder votes, it is probably for the right reasons.

This debate may seem bizarre in countries with better functioning shareholder democracies, such as Britain. There, shareholders can vote directors off the board, and ask for votes on resolutions at annual meetings, many of which are binding on the board. By law, they also receive an advisory vote each year on top executive compensation. There are no anti-takeover poison pills. Big shareholders are usually consulted about board appointments and, on the rare occasions when they are unhappy with a choice, it is usually the shareholders who win.

Have a quiet word

Even so, as in America, many British institutional shareholders are remarkably reluctant to take any interest in improving corporate governance, says Colin Melvin of Hermes, a British fund manager. That is especially odd given the initial results of a pioneering new study unveiled by London Business School of the corporate-governance activities of the Hermes UK Focus Fund, which targets a few companies that it thinks need sorting out and actively engages their managements in dialogue. According to the study by Marco Becht, Julian Franks, Colin Mayer and Stefano Rossi, which looked at private interactions between the Hermes fund as well as any public actions, its activism generated healthy increases in the share price of those firms it targeted successfully. All of which suggests that a little more shareholder democracy would not bring American companies to their knees—and could even help them. Whether they will get any remains to be seen.

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About sponsorship

Monetary policy in Japan

After the flood

Mar 9th 2006 | TOKYO
From The Economist print edition

Japan's monetary policy starts to look almost normal

ON MARCH 9th the Bank of Japan (BoJ) declared that the days of its ultra-loose monetary policy were over and that it was winding down its unorthodox practice, begun five years ago, of flooding the banking system with free money. This drastic measure, known as “quantitative easing” was designed to pull Japan out of deflation after the cutting of interest rates to nil had failed to do the trick.

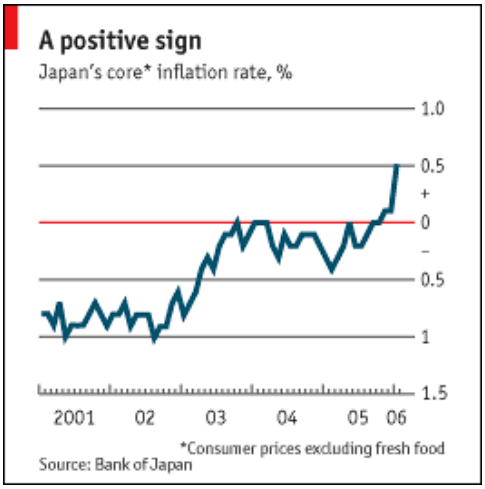
In keeping with modern, open central-banking fashion, the BoJ has also supplied a much-needed peek at the map it will use to steer itself back to a more “normal” monetary policy: one that is conducted by varying interest rates, not the quantity of money. Even so, because Japan is about to embark on an unusual journey, the way ahead is bound to contain surprises.

Evidence of economic recovery has been mounting. GDP grew by 2.8% in 2005 and by 4.2%, year-on-year, in the fourth quarter. Companies' order books are increasingly healthy. Surveys of consumer and business confidence are strong and getting stronger. And after seven long years deflation seems to be gone.

In its bid to beat deflation, the BoJ made a promise: it would keep its ultra-loose policy until inflation was sustainably positive. For some months, the bank has been noting signs of inflation's return. Now prices—at least, measured by the core consumer-price index (CPI)—are rising again. The annual rise in the core CPI (which includes energy but not fresh food) was nil in October and edged up to 0.1% in November and December. January's figure, published on March 3rd, showed a jump to 0.5% (see chart), higher than most people expected. That set everyone thinking that the BoJ would soon move.

Lately, the BoJ's governor, Toshihiko Fukui, had seemed eager to start turning off the tap. He had faced angry opposition from powerful ministers, who claimed that deflation was not yet dead. They had half a point. If energy were excluded (as it is in most countries), January's core CPI number would have been a mere 0.1%. What is more, measured by the GDP deflator, prices were still falling late last year. Still, the evidence of recovery had done much to soften ministers' warnings. But earlier this week Junichiro Koizumi, the prime minister, himself reminded Mr Fukui how disastrous it would be if the bank ended quantitative easing only to have to reinstate it. Nevertheless, by moving now rather than next month, when most people expected it, the BoJ has shown that it will act as it sees fit.

The bank's first, delicate job is managing a smooth end to quantitative easing. In effect, this policy has consisted of stuffing the reserve accounts that commercial banks must keep at the BoJ with free cash. These accounts contain ¥30 trillion-35 trillion ($260 billion-300 billion), far more than would be required simply to keep overnight interest rates at zero (about ¥6 trillion). The idea was to get banks with shrinking loan books to lend more and so boost the economy.



There is a danger of mopping up that liquidity too fast, especially if prices ease again (as they might, once last year's rise in energy prices works its way out of the figures). But there is also a danger of mopping too slowly, and letting speculation take hold in markets for financial assets and property. The effect of the BoJ's largesse is already plain in the stockmarket, where day traders buying on margin were a big force behind the market's 40% surge last year. The policy has been felt in all sorts of foreign markets too (see article).

The BoJ also has the government-bond market to worry about. The bank buys bonds in huge amounts: ¥1.2 trillion a month, or two-fifths of all issuance. If it stopped suddenly, yields would shoot up, causing market chaos and a headache for a government whose debt-service consumes 22% of its annual budget. So the BoJ said it would keep buying "for some time".

The BoJ says it will take a few months to wind down quantitative easing. Even after that, it could be a while before interest rates are raised above zero—their mark since 1999, except for one disastrous increase in 2000. Futures markets expect a quarter-point increase later this year, although some economists think that soft CPI numbers after this spring will cause the bank to wait until 2007.

But how could the bank signal and then manage a smooth transition? It was committed to quantitative easing until core inflation reached zero; but zero is patently too low a target to be much use in setting interest rates. And given the bank's history, there was always the fear that it may raise rates too soon. The BoJ therefore desperately needed a new framework if it was not to replace relative clarity with opaqueness and risk instability in financial markets. It has therefore given unusually detailed guidance about how it will manage expectations on the way to ending its zero interest-rate policy, and even beyond.

First, it promises that there will be no abrupt change in short-term interest rates. Second, the BoJ has laid out a new framework for monetary policy, which spells out more clearly what the bank means by price stability and how it will pursue it.

Those who fear that the central bank is by nature dangerously hawkish will not be reassured by its conceptual definition of price stability as "a state where the change in the price index is zero". This seems to reflect Mr Fukui's belief that the Japanese have long expected lower inflation than elsewhere. Yet many economists think that mild inflation (say, 2%) is better than zero at allowing relative prices to adjust smoothly. And there is a greater risk at zero inflation of a deflationary demand shock.

On the other hand, the bank's policy board has defined a range within which price stability in the longer term might be said to apply and this, 0-2%, is wider than most had expected. It also refers to "headline" CPI, which includes the prices of fresh food. The board also made it clear that the BoJ would take into account events with a low probability but high economic costs—demand shocks, presumably. And it said it would review the inflation range annually.

The BoJ has thus made its thinking clear. What is not clear yet, however, is whether the creation of the new framework will put an end to a debate under way in policymaking circles about what the bank's mandate should be. This debate has pitted the government's desire for growth (and tax revenues) against the BoJ's desire for price stability. Until now politicians have not been keen that the BoJ decide its own mandate unilaterally. Financial markets will be far happier with the new state of affairs than with the shouting match of the past few months.

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Global markets

Carried away

Mar 9th 2006
From The Economist print edition

Investors have some good reasons to fear the Bank of Japan

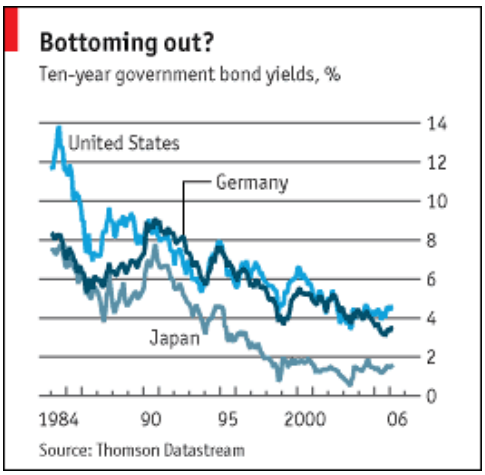
IF YOU were charitable, you would say it had the elegance of simplicity. If you weren't, you'd call it obvious. The "carry trade" is, however, one of the most talked-about trading strategies of recent times.

The favourite subject of the masters of capitalism has much in common with the dinner-table topic of choice in large parts of the English-speaking world: making money from the property market. Both involve borrowing cheaply to buy something with a higher expected return. The carry traders, however, have travelled further than housebuyers in pursuit of lucre. Lately, they have gone to Japan, to borrow yen for next to nothing, convert it into other currencies, and buy anything from emerging-market stocks to gold, property and Kenyan shillings. While it has lasted, the trade has brought an air of old-fashioned derring-do to international capital markets; after all, as long as the yen holds steady or depreciates, it is hard to lose. But the end of Japan's ultra-loose monetary policy, signalled this week, might make the carry trade look a good deal riskier. This gives speculators the willies. Some, theatrically, believe it could cause the "avian flu" of global financial markets.

History suggests it would be wrong to be blasé, but, as yet, the doom-mongering looks overdone. True, betting everything on a low-yielding yen has, in the past, been dangerous. In 1998, after financial crises in South-East Asia and Russia, the dollar plunged against the yen, as speculators unwound the carry trade in a panic. Last December there was a hint of menace when a decline of the dollar against the yen sent shockwaves into markets for such diverse things as the Brazilian real, the New Zealand dollar, gold and crude oil, according to Goldman Sachs.

But even though the Bank of Japan (BoJ) has said policy will be less loose, it is unlikely to raise interest rates fast enough to kill the carry trade. Futures markets forecast that short-term rates will be only 0.25% or so later this year. That is still below what investors can earn elsewhere; and the BoJ might not raise rates at all.

Data compiled by Tony Norfield, a currency strategist at ABN AMRO, a Dutch bank, indicate that in December the extent of yen borrowing was in any case only one-sixth of what it had been at the peak of carry-trade fever in 1998. Mr Norfield believes that, because it dare not snuff out Japan's nascent recovery, the BoJ will tighten policy only very slowly. "It is premature in the extreme to say the yen will rally big time," he says.



Even if they carry on regardless, the world's investors still have good reason to be cautious about Japan. First, Japanese corporations' years of deleveraging, which have helped fuel the global liquidity glut, may be ending, says John Richards of Barclays Capital in Tokyo. That may affect Japanese demand for foreign assets, such as American Treasuries.

Second, the BoJ has been responsible, along with America's Federal Reserve and the European Central Bank, for an exceptionally long period of unusually accommodative monetary policy. The other two have already begun to tighten. If policy becomes still tighter all round, it is hard to see global bond yields staying at their recent low levels (see chart). And third, investors might ask whether it is worth hunting out high-yielding assets in emerging markets and leveraged credit markets, if they can get attractive returns in safer places.

Such thoughts may already be permeating global bond markets, where yields on ten-year American Treasuries, German bunds and Japanese government bonds have risen in recent weeks. Further rises could be unsettling in a global economy where consumers, governments and many buy-out firms are leveraged to the gills. The BoJ is unlikely to be overly troubled by the interests of those bloated borrowers. Which is why they should be watching the bank's every move.

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About sponsorship

The New York Stock Exchange

Listed at last

Mar 9th 2006
From The Economist print edition

AP

Ringing their own bell

Amid questions about its strategy, the NYSE celebrates its stockmarket listing

AFTER 213 years as a member-owned institution, the New York Stock Exchange (NYSE) became a listed company on March 8th. Despite the celebratory mood, the day's opening bell might have tolled sombrely for traders on the exchange floor. A day earlier the world's biggest stock exchange had completed a merger with Archipelago, an all-electronic trading network. The new entity (to be known as NYSE Group) is a child of the electronic age. The floor traders' days may be numbered.

In the year ahead, technology could have as much effect on the success of the new NYSE as a public listing does. More than a billion shares are traded daily on the NYSE, which has clung to floor trading since its founding more than two centuries ago. Electronic trading should boost both volume and profits. That has been the experience of other big financial exchanges from Chicago to Frankfurt, which have done strikingly well since embracing screen-based trading and stockmarket listings in recent years.

The NYSE got off to a positive start. Its share price opened at $67, valuing the company at more than $10 billion, and was worth $80 at the end of the day. Unlike most others, the NYSE has merged with an exchange that was already public. The price of Archipelago's shares (now subsumed in the new group's equity) had already jumped to over $64 from about $17 when the deal was announced last April, suggesting that the market had factored a good deal of growth into the price.

For the moment, the NYSE's strategy is to let floor-based and electronic trading co-exist, in a system to be gradually deployed. But some market observers dismiss this “hybrid” approach, and predict that the exchange will be fully electronic within a couple of years. The hybrid system is “throwing sand in the gears of the marketplace,” charges Benn Steil, an expert on exchanges at the Council on Foreign Relations in New York. He sees potential wrinkles in a system where the rapid flow of public electronic information mingles with the “private” market of floor traders.

One of the difficulties facing the NYSE is that its customers, unlike those of the big futures exchanges, have a choice of places to trade. The exchange's share of the trade in the stocks it lists fell to about 72% last year. NASDAQ, which recently merged with the all-electronic INET, is the most vigorous competitor, but large investment banks are also backing upstart regional exchanges in Boston and Philadelphia as alternatives to the New York markets. Off-exchange trading is growing as well.

Although the NYSE is known chiefly as a stock exchange, a growing demand for cross-asset trading has prompted it to unveil plans to go after more of the corporate-bond market. Here too, sceptics abound. The market is fragmented because companies may issue bonds of many different types—as they may not with shares. So far, no exchange has managed to capture a big chunk of the corporate-debt market, which is still dominated by dealers.

While all this is going on, an important regulation, known as Reg NMS, is looming. The rule, still being developed by the Securities and Exchange Commission (SEC), is highly technical, but its effect will be to increase transparency and efficiency in share trading, and it will undoubtedly change the way stocks are traded in America. It could also put slower floor trading at a disadvantage.

Some market observers suggest that, should the NYSE have problems getting its hybrid system up quickly, the SEC could delay the implementation of Reg NMS for the entire market. From the commission's standpoint, “it is appropriate public policy that transitional changes in the largest equity market in the world are done carefully and thoughtfully,” says Brandon Becker, an attorney and former SEC official. While the commission would not necessarily favour one exchange, he notes, “tens of millions of investors are trading these shares every day.” In other words, the SEC would be unlikely to threaten the stability of the system by pressing hard for rapid change.

For those with long memories, this tension between regulation and technology brings to mind the events of nearly 30 years ago, when the then SEC chairman, Harold Williams, was being pressed by Congress to implement a national market system. “We were over-enraptured with the use of technology at the time,” recalls Mr Williams. He declined to move quickly, for fear the capital markets would be at risk. “After all,” he says, in words that will resonate in both New York and Washington, “it's the confidence of the world that we're dealing with.”

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About sponsorship

Genworth

Out and up

Mar 9th 2006 | NEW YORK
From The Economist print edition

Sold by GE, an insurer prospers

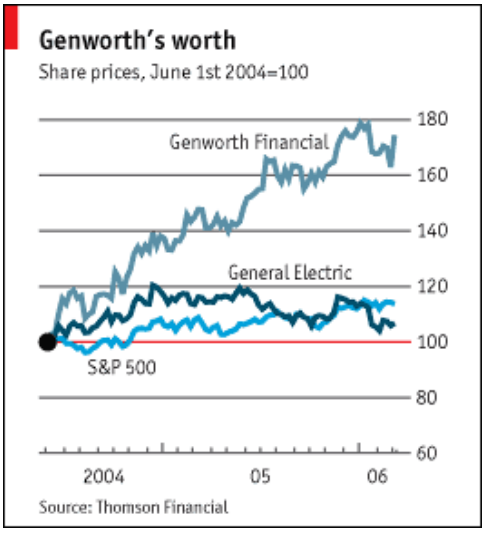
IN JACK WELCH'S day, General Electric looked like a sort of magical mutual fund. GE would buy loads of companies priced at ordinary multiples of earnings. Once in the fold, they would be revalued using the GE premium, pushing GE's share price ever higher. This is a wonderful trick, but it can be repeated only as long as markets believe that the acquiring company can keep expanding its purchases' earnings at a faster rate or that it can earn just as much with less capital.

When Mr Welch departed, that illusion ceased. GE now trades as a normal company, under all the normal pressures to produce returns. The company has responded by starting to get rid of some of its stodgier businesses. If the experience of Genworth Financial, one of those spin-offs, is any guide, the Welch magic has gone into reverse, benefiting the sold business but not helping GE's share price.

The sale of Genworth, a bucket of some of GE's insurance operations, began in May 2004. The last of the shares were sold on March 7th. Although even its clients may have trouble recognising the name, Genworth is big. Spread over 24 countries with 15m customers and 6,900 employees, it sits just beneath the industry's behemoths, such as MetLife and Prudential. It has the distinction of having seen more of its stock dropped onto the market than any other company listed on the New York Stock Exchange: just over $12 billion-worth has been sold.

Such an enormous supply of shares could depress the value of any company, but not Genworth. Its share price is up by 74% since its initial public offering, far more than either GE's or the market as a whole (see chart). Why has it done so well? Improvements in returns have helped. And now that Genworth's collection of businesses is no longer part of GE, it is easier to pick out the stars (and the less shiny bits) they contain.

Under GE, it turns out, the Genworth operations were making a return on equity of only 9%, half what good companies manage and less than the 12% earned by the typical life insurer. But that 9% average hid substantial differences between divisions. Stewart Johnson, a securities analyst with Friedman, Billings, Ramsey, an investment bank, reckons that many of Genworth's lines, including fixed annuities and long-term care plans sold in the mid-1990s, along with a business in Britain that pays bills in the event of unemployment, were returning less than 6%.



Other operations were doing remarkably well, with returns in the high teens. These included new long-term-care contracts and mortgage insurance—which, growing particularly fast outside America, provides credit protection to banks through policies paid for by the borrower. This insurance is used mainly for mortgages with low down-payments. Why an insurer should offer this is a moot point. Evaluating credit risk, after all, is part of a banker's trade: they should know better than insurers how likely a borrower is to default. On the other hand, credit risk may fit into an insurer's broad portfolio. A larger part of the explanation, though, is likely to lie with regulation: insurers do not have to put up the same amount of capital as banks to cover these risks.

Looking ahead, Michael Fraizer, Genworth's chief executive, sees growth opportunities in the wretched state of health care, retirement provision and so on. All these can be ameliorated by insurance. But the biggest opportunity for Genworth was the change in fortunes at GE.

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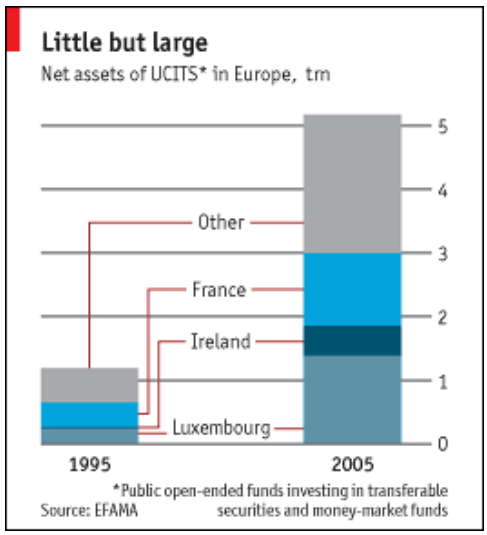
Fund management in Europe

Progress, of a sort

Mar 9th 2006
From The Economist print edition

Cross-border investment is rising, but the market remains fragmented



TINY Luxembourg has long been a hub for international banking. In recent years, the bankers have been joined by another tribe seeking a friendly haven in Europe: international fund-managers. Luxembourg's importance was underscored on March 7th when Clearstream (a subsidiary of Deutsche Börse, a German financial-exchange group) unveiled plans for a new post-trade system to serve funds based in the grand duchy.

Luxembourg is now the European Union's largest retail-fund administration centre by assets (see chart). It is not the only fast grower. In the past decade Dublin has shot from almost nowhere to attract an increasing share of international funds. Together the two centres account for 35.8% of assets in UCITS (the EU's term for, in effect, mutual funds) up from 21.5% in 1994.

The rise of the two centres reflects the search by big fund-management firms for the best tax and regulatory environments from which to operate. While other countries (notably France) have big domestic fund industries, the rise of international hubs is a sign that fund management is closer to a single market than most of the rest of Europe's financial sector. Industry experts reckon that more than half of fund assets in Europe are invested in cross-border products today. Yet for all the progress, fragmentation and inefficiencies remain.

The remaining blemishes matter because Europeans are showing a growing appetite for such investments. Fund assets under management rose by 22.8% in 2005, to €6.6 trillion ($7.8 trillion), according to figures published this week by the European Fund and Asset Management Association (EFAMA), an industry group. The strong performance of equity funds, with returns up an estimated 27% last year, undoubtedly helped boost investors' interest.

EFAMA counted 30,831 funds at the end of last year, many more than in America. PricewaterhouseCoopers (PWC), a consultancy, reckons that less than one-fifth of those in Europe are truly cross-border funds. Many domestic funds are owned by big investment managers that are eager to attract investors across the region, but must still bear the costs of separate operations in each market.

“This cannot go on, we cannot continue having so many domiciles,” says Jean-Baptiste de Franssu, head of the European business of Invesco, a big fund manager. His firm is boosting its presence in Luxembourg and Dublin. But even from there, if it wants to sell a fund across Europe, “it is a nightmare,” he says. “It's costly, lengthy, and every country has its own ideas on what should be done.”

Discriminatory withholding taxes (in which domestic funds are favoured over foreign funds), obstacles to fund mergers, and red tape inhibiting cross-border fund distribution all hinder a more efficient cross-border market. David Newton, head of PWC's financial-services tax practice, says that discriminatory taxes ultimately mean higher fees for investors. He sees a growing number of fund managers complaining to the European Commission about this discrimination.

The commission seems to be listening. Charlie McCreevy, the internal-market commissioner, is keen on knocking down the remaining barriers to the creation of a cross-border European market. A recent “green paper” on the subject by Mr McCreevy's staff was well received by the industry. Invesco's Mr de Franssu is optimistic that pressure from Brussels will eventually be felt in national markets, where entrenched interests are holding out against further integration. “The momentum is unstoppable,” he says. “The question is not if, but when.”

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American banks

Headwinds

Mar 9th 2006 | NEW YORK
From The Economist print edition

Banks in America have had a rich few years. Now the going will be harder

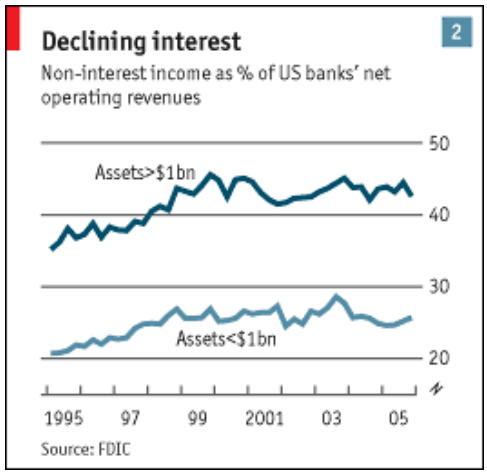
LIFE has been good for American banks. Low interest rates, a roaring mortgage market and borrowing by the spendthrift American consumer have sent money washing into their coffers. According to the Federal Deposit Insurance Corporation (FDIC), one of America's many financial regulators, banks chalked up $135 billion in profits last year, their fifth consecutive year of record earnings—even though the Federal Reserve has raised interest rates 14 times since mid-2004.

But there are signs that the best days are gone. Despite the profits, last year also saw banks' return on equity drop to 12.5% from a peak of 15% in 2003, according to FDIC figures (see chart 1). Are rising interest rates finally taking a toll?

Certainly, they are making lending less lucrative. Banks make money by taking short-term deposits and lending them for longer periods, and at higher rates, to companies, governments and households. In recent years, the yield curve (the difference between short- and long-term interest rates) has been steep—and the lending business an easy one.

But with short-term interest rates rising, the yield curve has flattened—and even inverted. The FDIC reckons that big banks saw their net interest margin squeezed from 4.06% in the first quarter of 2002 to 3.48% in the second quarter of 2005, where it has since stabilised. Commerce Bancorp, a recent high-flyer, saw its net interest margin fall to 3.77% last year from 4.28% in 2004, owing to what Vernon Hill, its chairman, called “the worst interest-rate environment in recent years.”

How much this “margin squeeze” matters varies greatly across the industry. Although banks both large and small rely more on fees and less on lending (and hence interest income) than they did ten years ago, smaller institutions tend to be more dependent on lending than larger ones and so are more at risk from a flatter yield curve (see chart 2). According to Morningstar, a research firm, Hudson City Bancorp, a small savings bank in New Jersey, derives 99% of its revenues from interest income. Fee income makes up 64% of the revenues of JPMorgan Chase, for example, and 47% of Citigroup's.



For bankers, a more worrying consequence of rising interest rates is that they have dampened demand for the mortgages and refinancing that have underpinned their profits in recent years. According to the Mortgage Bankers Association, originations for both housebuying and refinancing cooled in the fourth quarter.

A housing slowdown could, in turn, hit construction lending, which has been another growth area. According to the FDIC, in the last quarter of 2005 such lending was 33.2% higher than a year earlier, the fastest increase since 1986. Most of these loans have been for residential projects but, as Richard Brown, chief economist at the FDIC, notes, “The best days are past for anything related to real estate, at least in this cycle.”

To make matters worse, the pace of deposit-gathering by banks is slowing. Banks had seen deposits grow at annual rates of up to 13% in the early part of the decade, as consumers withdrew cash from their homes and stashed it at the bank, for lack of more attractive investment options.

But an analysis of monthly deposit-growth rates at large commercial banks by Fox-Pitt, Kelton, an investment

bank, shows a slowing that started in August 2003 and became more marked in 2004 and 2005. Competition for deposits “has intensified”, says Jon Balkind, a Fox-Pitt analyst, since the Fed started raising rates.

Perhaps the biggest worry of all is, for the moment at least, the hardest to quantify: a drop in credit quality. The FDIC puts the share of non-current loans (those at least 90 days late) in total debts outstanding at 0.74% in the third and fourth quarters of 2005, just above the second quarter's record low. By way of comparison, in 1990 the rate was 3.5%. “Credit has rarely if ever been so good,” says Mr Brown.

Too good to last, perhaps. Rising interest rates or an economic slowdown could make it hard for companies and, especially, consumers to pay off their debts. In the past two years households' mortgage debt has grown by almost a third, to an eye-watering $1.8 trillion, says the FDIC.

Worryingly, part of this new borrowing has been at variable interest rates, which makes it susceptible to tighter credit conditions. Other fancy lending schemes, such as sub-prime and interest-only mortgages, have been introduced to encourage poorer Americans onto the housing ladder. Although this has fostered the “democratisation” of the mortgage market, a lofty aim, some of these borrowers may be unable to pay when the market tightens.

Indeed, both bankers and regulators are paying close attention to loose lending standards and thin, even foolish, pricing of some mortgages and commercial loans. Competition for commercial lending, they note, has been fierce not just among banks but also from the capital markets. This week Ben Bernanke, the Fed's new chairman, warned community banks about their commercial-property lending.

Then again, banks have become adept at passing on risk through derivatives and the securitisation of loans. Indeed, the capital markets—and ultimately insurance funds, and investors in hedge funds and pension funds—increasingly take on risks, from non-traditional mortgages to commercial loans, that once remained on banks' balance sheets. The good news is that banks would not bear the brunt of a credit meltdown. The bad news is that your pension fund might.

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About sponsorship

Economics focus

Searching for the invisible man

Mar 9th 2006
From The Economist print edition

Economics rediscovers the entrepreneur

THE French, according to George Bush, have no word for them, economic theory has surprisingly little room for them, and it is a mystery why anyone would choose to be one of them. Entrepreneurs are the leading men of capitalism, the venturesome protagonists who move the plot forward. But economic theory gives them few if any lines to read.

Translated literally, *entrepreneur* means one who undertakes—one of life's doers. To start a firm you need gumption, and to succeed you need an eye for a gap in the market. That in turn demands alertness, as Israel Kirzner, of New York University (NYU), has pointed out. But it does not always demand much originality or power of invention. The fresh-born firm may be a mere clone of another one in a neighbouring town.

More interesting are the entrepreneurs who innovate, who introduce something new into the world. Unfortunately, such figures have been all but banished from the theory of the firm and the market. Microeconomics instead gives pride of place to prices. Guided by the wages and interest rates they must pay, businessmen choose among different techniques of production (labour-intensive when workers are cheap, capital-intensive when they are scarce) but they do not reinvent or revolutionise them. Guided by the price their wares will fetch, they decide to make more goods or fewer. But they do not conjure up new products that no one had previously thought of.

William Baumol, who holds positions at both Princeton and NYU, has been labouring for years to create more space for entrepreneurship and innovation in economic theory. At this year's annual meeting of the American Economics Association, three special sessions on entrepreneurship were held in his name*. Mr Baumol's work in turn pays homage to the insights of Joseph Schumpeter, for whom the settled equilibria and smooth adjustments of microeconomics held little interest.

Schumpeter wanted to dislodge the price mechanism from its “dominant position” in “the sacred precincts of theory”. In the real world, he said, the competitive weapon that counts is not lower prices, but new commodities and techniques. These weapons are much deadlier, striking “not at the margins of...the existing firms but at their foundations and their very lives.”

If innovation threatens companies with obsolescence and extinction, they cannot afford to leave it to chance. Rather than waiting for flashes of inspiration, they set up research-and-development (R&D) departments and commit an annual budget to the pursuit of new products and processes. In this way, invention becomes routine.

This domestication of wildcat entrepreneurialism is good news for economists. Once research and innovation are reduced to a regular outlay and a steady stream of results, they become amenable to economists' analytical techniques. “We can far more easily subject such a customary, regular and predictable activity to systematic analysis than the erratic, unpredictable ‘Eureka! I have found it!’ kind of discovery,” Mr Baumol writes. R&D can be modelled much like any other investment decision, different only in degree from building factories or advertising.

Entre-penury

Most innovations are merely incremental improvements on something that already exists: a slightly better mousetrap, as Mr Baumol puts it. A rare few represent discontinuous breakthroughs, such as the incandescent lamp, alternating electric current or the jet engine. All of the above, according to Frederic Scherer, professor emeritus at Harvard, were introduced not by the regimented R&D of established corporations, but by scrappy new firms, twin-born with the invention itself. Mr Baumol ventures that most breakthroughs arise this way—the offspring of independent minds not incumbent companies. He has two explanations for this. First, radical innovation is the only kind lone entrepreneurs can do; and, second, they are the only ones who want to do it.

The first explanation seems paradoxical. Breakthroughs are, by definition, more difficult than routine innovations. Surely, they should be beyond the meagre means of the independent entrepreneur? But as Mr Baumol points out, building the *Kitty Hawk* was much cheaper, and less complicated, than upgrading the Boeing 737 to the 747.

Genuinely new ideas are often breathtakingly simple. They grow more elaborate as improvements and modifications are laid on top of them. If you are the first to discover a tree, you get to pick the lowest-hanging fruit.

The second explanation is more intuitive. Revolution is a risky endeavour. Of 1,091 Canadian inventions surveyed in 2003 by Thomas Astebro†, of the University of Toronto, only 75 reached the market. Six of these earned returns above 1,400%, but 45 lost money. A rational manager will balk at such odds. But the entrepreneur answers to his own dreams and demons. Mr Baumol thinks a “touch of madness” is probably one of the chief qualifications for the job.

Economists have little to say about madness, of course. But they can point out its economic implications. If money isn't everything to the independent inventor, he is likely to be cheap. Indeed, he will be the lowest-cost provider of the kind of risky, painstaking endeavour that lies behind the breakthrough inventions. Big firms could pursue the big ideas, but since they would be employing professionals not amateurs for these quixotic ventures, they would have to pay them in money, not love.

Thanks to Mr Baumol's own painstaking efforts, economists now have a bit more room for entrepreneurs in their theories. But it remains a mystery why anyone would want to be one.

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* See the papers collected at www.aeaweb.org/annual_mtg_papers/2006papers.html

† “The Return to Independent Invention”. *Economic Journal*, January 2003

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Marjorie Deane internship

Mar 9th 2006
From The Economist print edition

Applications are invited for the 2006 Marjorie Deane internship. This award, financed by the Marjorie Deane Foundation, is designed to provide work experience for a promising journalist or would-be journalist, who will spend three months of the summer at *The Economist*, writing about finance. Applicants may also be considered, if they wish, for an internship of similar duration at *CFO Europe*, a sister publication of *The Economist*. Applicants should send a letter introducing themselves, with an original article of about 1,000 words that they think would be suitable for the finance and economics section of *The Economist*. Applications must reach us by March 31st. They should be e-mailed to deaneintern@economist.com or posted to the Business Affairs Editor (Deane internship), The Economist, 25 St James's Street, London, SW1A 1HG.

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About sponsorship

Nuclear fusion

Once is happenstance...

Mar 9th 2006
From The Economist print edition

Serious doubts about claims for fusion in collapsing bubbles

MAKE a mistaken claim in any branch of science, and endeavours in that field may be tainted for years. Faced with two such claims, the field is definitely in trouble. And that now seems to be the case for so-called “tabletop fusion”.

In 1989 Stanley Pons and Martin Fleischmann claimed to have achieved “cold fusion”—nuclear fusion in apparatus built on a laboratory bench. Their work, however, was discredited and the field is now a no-go area for most physicists. This week, fresh doubts emerged about a related claim to have used bubbles generated by ultrasound to create fusion. If these are substantiated, the idea of tabletop fusion will, indeed, become a pariah.

For decades, physicists have sought to achieve nuclear fusion on the cheap. Fusion involves small atomic nuclei colliding to form larger ones, a process that releases energy. But, since atomic nuclei are positively charged, and like charges repel, it is a difficult stunt to pull off. It happens in the cores of stars, where high pressure squeezes nuclei together and high temperatures mean that they are travelling fast enough to overcome the repulsion. It can also be made to happen briefly on Earth, in huge machines that can create high temperatures and pressures. A small-scale version that operated at normal temperatures and pressures would be a real boon.

Such was the device that was published by Rusi Taleyarkhan, then of Oak Ridge National Laboratory in Tennessee, in *Science* in 2002. Dr Taleyarkhan and his colleagues used a technique called acoustic cavitation—the imploding of a bubble created by sound waves passing through a liquid—to generate the pressures and temperatures required for nuclear fusion.

Bubble trouble

The team created these bubbles in acetone, which has molecules containing six hydrogen atoms. They ran the experiment with normal acetone, as a control, and with acetone made with deuterium (a form of hydrogen that has a proton and a neutron in its nucleus, rather than the single proton of normal hydrogen). Deuterium is easier to fuse than normal hydrogen, and all fusion experiments use it.

As they ran each experiment, the researchers looked for the release of neutrons possessing the characteristic energy that comes from deuterium fusion. With normal hydrogen, they found none. With deuterium, they claimed to have found significant numbers. However, in a paper submitted this week to *Physical Review Letters*, Brian Naranjo of the University of California, Los Angeles, argued that the neutrons generated in Dr Taleyarkhan's experiments did not have the right energy to have been produced by fusion.

Dr Naranjo took his data from a paper published by Dr Taleyarkhan in January. This appeared in an electronic format that allowed him to deduce those data from the graphs it showed, even though the raw numbers were not published. He argues that the resulting neutron energies are consistent with the decay of a standard radioactive source called $^{2}\{+5\}^{2}$californium. Dr Taleyarkhan's description of his method explicitly excludes the possibility of such a source being present. Moreover, if Dr Naranjo is correct, $^{2}\{+5\}^{2}$californium would appear to be present only in the experimental runs using deuterated acetone and not in the control experiments using normal acetone, pointing to the possibility of direct human interference.

There is a certain amount of “history” between the two scientists. Dr Naranjo works in the laboratory of Seth Putterman, one of three researchers who peer-reviewed Dr Taleyarkhan's original *Science* paper and did not like it. When the journal published the paper anyway, Dr Putterman went public, arguing that Dr Taleyarkhan had not ruled out several potential sources of error in his paper.

But the problems now appear to be more than personal. In this week's *Nature*, colleagues of Dr Taleyarkhan criticise his methods and claim to have had no success in repeating his positive results. In 2004 Dr Taleyarkhan moved to Purdue University in Indiana, where Lefteri Tsoukalas, head of nuclear engineering at the university, had been trying to repeat his experiments. Dr Tsoukalas's team had completed several experimental runs, but had not seen any evidence for bubble fusion. Once Dr Taleyarkhan had arrived, members of the laboratory became increasingly concerned by his actions. Tatjana Jevremovic, an assistant professor of nuclear engineering at the university, told *Nature* that Dr Taleyarkhan would sometimes claim that the experiment was producing positive results when she could see no such thing. He then removed the equipment from a communal laboratory and took it to his own labs off-campus, preventing the team from continuing with its experiments.

Moreover, the American patent office has quietly but firmly rejected Dr Taleyarkhan's bubble-fusion device. An application for a patent was filed in 2003, when he was still at Oak Ridge, on behalf of the Department of Energy, which funded the work. On December 27th last year the department formally abandoned the claim. Ricardo Palabrica of the Patent Office had described the application as “no more than just an unproven concept”.

As *The Economist* went to press, Dr Taleyarkhan had made no public comment on the matter. But if the apparent problems are substantiated, they will cast a shadow over the entire endeavour. Unlike the work of Dr Pons and Dr Fleischmann, bubble fusion has a strong theoretical underpinning, and may yet work. The trouble is that eager, young researchers who want to make a name for themselves are unlikely to touch it with a barge-pole.

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Human evolution

Sugars and spice

Mar 9th 2006
From The Economist print edition

More evidence that people are still evolving

ALL species change the environment, but few have changed it to the extent that humanity has since farming was invented 10,000 years ago. In nature, however, such change goes both ways. Organisms are genetically adapted to their circumstances by evolution, and if the circumstances change, the genes should respond in their turn. Which is just what Benjamin Voight and his colleagues at the University of Chicago have found, in a piece of research published in *PLoSBiology*.

Dr Voight drew his raw data from the International HapMap Project. This project is designed to look at differences (known as haplotypes) between human genomes around the world. The team selected three groups for investigation: the Yoruba of Nigeria, East Asians (defined as Chinese and Japanese), and Europeans.

A lot of the differences between genomes are single nucleotide polymorphisms (SNPs), the technical name for stretches of otherwise-identical DNA that differ between individuals in a single genetic “letter”—that is, in one of the pairs of chemical bases in which the message of the genes is written. Most SNPs are there at random, making little difference to the way the genes operate. That is because the ones that do matter either disappear (because they are bad for survival), or become ubiquitous (because they are good for survival). But if a beneficial SNP has emerged recently, then it might be possible to catch it in the act of spreading. And that is exactly what Dr Voight and his team think they have done.

During sexual reproduction, matching chromosomes from mother and father exchange genetic material to create new chromosomes. Over the millennia, this leads to a thorough mixing of the genetic material. But Dr Voight reasoned that if a SNP is spreading rapidly through a population it will carry its neighbours with it, because there will be less time for the process of genetic exchange to separate it from those neighbours. The way to find recently evolved changes is therefore to look for them in long blocks of DNA that are more frequently identical in different individuals than they ought to be.

The team identified several hundred genes that had undergone recent selection in at least one of the populations being studied. Some were not surprising. Genes involved in the generation of sex cells, and in fertilisation, are known from other work to have strong selective pressures on them, and those pressures clearly continue in modern humans. Nor was it much of a shock to discover selection, in Europeans, for changes in four skin-pigmentation genes known to be involved in reducing melanin content.

Perhaps the most intriguing results were those connected with food metabolism. The gene for alcohol dehydrogenase is undergoing selection in Asia, as is that for processing sucrose (table sugar). Meanwhile, the genes for processing two other sorts of sugar, lactose (found in milk) and mannose (found in some fruit) are changing in Europeans and Yoruba respectively. Fatty-acid metabolism, too, is changing in all three populations. And Europeans are having the toxin-disposal systems in their livers modified.

Some brain genes are also changing, including two that control the size of brains, and two involved in susceptibility to Alzheimer's disease. And three genes that control bone growth have been modified in Europeans and East Asians, while the Yoruba have seen changes in genes that control hair growth.

What all this means in practical terms is not yet clear—though it could help to explain the incidence of certain diseases as incompletely assimilated responses to recent environmental changes. But it does, once and for all, knock out the idea that mankind, by tailoring his environment to his needs, has somehow stopped evolution in its tracks.

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Archaeology

A bronze-age burial

Mar 9th 2006
From The Economist print edition

Vesuvius is more destructive than previously thought

THERE was barely any warning. To the citizens of Pompeii, the eruption of Vesuvius was a deadly surprise. Earlier in the month the town's wells had dried up, but then one afternoon a huge eruption blotted out the sky and buried the city. For archaeologists, such great human misfortune has been useful; today, Pompeii offers a remarkable snapshot of 1st-century Roman life. But it would be a mistake to think that what happened to it is typical of a Vesuvian eruption. The discovery, a few years ago, of several dozen entombed Bronze Age settlements, about 15km north-north-west of the volcano, is today showing that Vesuvius is able to devastate a far wider region than succumbed in 79AD.

Nola is one of the best preserved of these sites. It was obliterated during the Avellino event, an eruption that took place about 3,780 years ago, during the Bronze Age. Like Pompeii, Nola is a remarkable time capsule. Scenes of everyday life were frozen by the volcanic deposits: moulds of huts, with pottery inside; the skeletons of a dog and nine pregnant goats found in a cage. And footprints. Thousands of them. Of adults, children and cows.

In a paper in the *Proceedings of the National Academy of Sciences*, Giuseppe Mastrolorenzo, of the Instituto Nazionale di Geofisica e Vulcanologia in Naples, and his colleagues explain that one of the main differences between Nola and Pompeii is that lots of people seem to have escaped from Nola. Thousands were able to flee while the eruption was in progress, and their footprints were pressed into the ash as they went. That this was possible suggests that, unlike in the case of Pompeii, the surge of gas and rock fragments from the volcano was settling as ash when people ran, and that this ash was cool enough to allow them to survive.

There is also evidence that a few settlements were rebuilt immediately after the eruption, but then abandoned. The volcano had brought such immense destruction to the area that no human life was possible until at least 230 years after the event—even up to 70km from Vesuvius.

While the Avellino event seems to have allowed people to escape in a way that the Pompeiian eruption did not, there are some other, less positive, conclusions about what would happen if it were repeated—for it was far larger than the one that buried Pompeii. Within a radius of 12km from the volcano such an eruption would cause total devastation and kill everyone, though beyond 15km (which Naples is), most people would survive. Nevertheless, the team found deposits of Avellino ash from half to three metres in depth within Naples itself, leading to the conclusion that a similar event today would overrun the city and have a moderate-to-destructive impact on buildings.

Their work therefore presents a new worst-case scenario for the citizens of Naples, and suggests that Vesuvius could inflict an urban-scale disaster of the kind recently seen in New Orleans. Humanity is still no match for the full force of nature. At present, more than 3m people live within the area destroyed by the Avellino eruption. Modern-day monitoring means that warnings of an eruption should give most denizens of the region enough time to escape. But as many unfortunates in both New Orleans and Nola will have discovered, what they do with themselves afterwards is another matter altogether.

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Conservation

Saving the ends of the Earth

Mar 9th 2006 | SANTIAGO AND TIERRA DEL FUEGO
From The Economist print edition

Preserving Chile's southern forests

WHEN Charles Darwin visited Tierra del Fuego in 1832, a single glance at the landscape was sufficient, he noted in his diary, “to show me how widely different it was from anything I had ever beheld”. Even today, more than a century after settlement by European sheep farmers, the island's sub-Antarctic woodlands, peat bogs and wind-swept steppes are still an untamed place. “There's nothing else like it,” says Lawrence Linden, an advisory director at Goldman Sachs.

Normally, the views of investment bankers, however complimentary about the natural world, would not cut much ice with conservationists. But one of the things Mr Linden advises on is the recently created Karukinka nature reserve in the Chilean part of Tierra del Fuego. And, since Goldman is responsible for the reserve's existence, listening to bankers is a skill those conservationists are going to have to learn.

The Karukinka reserve traces its history back to the 1990s, when Trillium, an American firm, attempted to log the island's forests of lenga, a type of beech found only in southern Chile and Argentina. The project, however, ran into opposition from local environmental groups and failed.

In 2002 Goldman Sachs acquired the loans that had backed the project—and with them the 2,750 square kilometre property—as part of a package of distressed debt. Two years later the firm donated the land to the Wildlife Conservation Society (WCS) of New York and the reserve was born.

As part of the arrangement, Goldman has put up $6.6m of its own money. Some $1.1m of that is to cover running costs during the reserve's first three years. The balance, plus a further pledge of $6m (some from the firm, and some from its employees, many of whom have taken the project to heart), together with $6.3m that the WCS has undertaken to raise independently, will be used to establish a fund to pay for the reserve's future protection.

Initially, the project will focus on restoring the ecosystem to its original condition—in particular by “containing” the beavers introduced from Canada in the 1950s for fur farming. In the absence of predators, these rodents have run amok, damming every river in sight and causing extensive damage to the trees.

But those trees are not the reserve's only asset. Conservationists are at least as excited by the wealth of fungi and lichens that grow in the lenga woods, many of which are thought to be unique to Tierra del Fuego. Moreover, the reserve aims to serve as a model for the conservation of southern Patagonia, in which Tierra del Fuego is located. But, although the area is the largest in Chile under the management of an overseas conservation organisation and, possibly, the best funded, it is not Chile's first private reserve.

Such reserves began to appear on a small scale in the late 1980s. Most were created by American conservationists. Then, in the early 1990s, Douglas Tompkins, an American billionaire who helped found Esprit and North Face, two clothing chains, started to buy the land that now forms the 3,000 square kilometre Pumalín Park in the heavily forested fjord region of southern Chile.

Pumalín was controversial, partly because it straddles a very narrow area of the country—in effect cutting Chile in half. But it was one sign of a trend in which developed-world practices in fields such as conservation began to make their way into Chile. This was part of a wider cultural shift in which the country, with its recently restored democracy, made international integration a central plank of its strategy for economic growth.

Pumalín also inspired Sebastián Piñera, a local businessman and politician, to pay an estimated $6m for 1,150 square kilometres of woodland on Chiloé island, further north than Tierra del Fuego. Over the next five years, Mr Piñera plans to invest $20m in the conservation of Chiloé and in the development of ecotourism. He wants his park to cover its running costs, estimated at $500,000 a year, with income from tourism.

The suspicion of bankers and business people still remains, though, and local environmentalists are wary of such projects. “If they're only isolated initiatives, they'll lack legitimacy; they have to be implemented in the context of a national conservation policy,” warns Manuel Baquedano, president of the Institute of Political Ecology, a leading environmental group. Nevertheless, Chile's National Forestry Service, which manages some 150,000 square

kilometres of protected areas—more than 50 times the size of either Karukinka or Pumalín—does so on an annual budget of a mere $5m. That surely leaves plenty of room for private initiative.

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Iranian cinema

How not to be offside

Mar 9th 2006 | TEHRAN
From The Economist print edition

Iranian film directors have to be especially inventive to get around the religious conservatives who are trying to clamp down on the film industry

ImageNet

SHORTLY before they set off for the Berlin film festival last month, the six Iranian directors whose films were due to be screened were summoned by a senior official in Tehran. The Islamic Republic does not like being embarrassed by film-makers speaking out of turn while they are overseas; the group expected to be fed the official line on two subjects: Iran's contentious nuclear programme and the controversial caricatures of the Prophet Muhammad, that Mahmoud Ahmadinejad, the Islamic Republic's combustible president, has made his own. “If they had told us what to say,” recalls Mani Haghighi, one of the six, “we might have been tempted to disobey, but these guys are smarter than that; to our surprise, we were advised to speak our minds.”

So, in Berlin, Iranian film-makers who do not hide their tense relations with the authorities found themselves echoing, if not Mr Ahmadinejad's aggressive rhetoric, then certainly the gist of his position. “I think that Iran has a right to its nuclear programme”, says Mr Haghighi, “and I said so.” Others, including Jafar Panahi, an outspoken critic of restrictions on freedom of expression in Iran, spoke out against the caricatures. For a country whose prospects in the medium term may include international isolation and even military attacks, the festival turned out to be a rare public-relations success. Mr Panahi's “Offside”, an engagingly subversive film about six female football fans who are arrested after smuggling themselves, dressed as men, into the all-male environment of Tehran's Azadi stadium, won the festival's prestigious Silver Bear award.

It would be premature to suggest that the religious conservatives who run the government have abandoned their ambition to cleanse the country's film industry of the liberals who infected it, so they believe, during the presidency of Mr Ahmadinejad's predecessor, Muhammad Khatami. The authorities probably allowed “Offside” its run at the Tehran film festival, which ended a few days before Berlin started, only in order to deny Mr Panahi, who wins a lot of sympathy abroad when his films are banned at home, the opportunity to present himself as a wronged liberty-seeker. (“Offside” is unlikely to be certified for general release.) For all that, as Iran's diplomatic position gets more parlous, and the world becomes inured to frowning Iranian officials parroting the official view, the advantage of giving exposure to personable patriots such as Messrs Panahi and Haghighi becomes apparent.

“Offside” may not be as visually satisfying as Mr Panahi's earlier masterpiece, “The Circle”, which devastatingly exposes the lot of women in the Islamic Republic, and its cast of non-professionals is not always convincing. Nonetheless, the film- maker's idea of placing the young women in the custody of two bewildered and traditional-minded conscripts while Iran's most important match in years unfolds within earshot but out of view, is telling. United by their obsessive desire for Iran to beat Bahrain and qualify for the 2006 World Cup in Germany, but divided by their views on the proper place for women, the characters in “Offside” represent a society that is in the process of tumultuous and unregulated change. Iran's post-revolutionary film industry, which took off in the early 1990s under such directors as Abbas Kiarostami and Mohsen Makhmalbaf and has thrived in spite of increasing

political and commercial pressure shows, in microcosm, some of the difficulties facing Iranians—and the imaginative methods they use to circumvent them.

How “Offside” was made is almost as absorbing as the film itself. Looking at the Alborz mountains from his flat in Tehran, Mr Panahi explains that, having in effect been banned from working by the Ministry of Culture and Islamic Guidance, he applied for permission to shoot the film using a dummy director and a scam synopsis. “Five days before the end of shooting”, he goes on, “they got wind of the fact that I was making the film and that the synopsis was a fake. We shot the final scenes on the road to Qom, outside the jurisdiction of the Tehran police.” Mr Panahi has not been prosecuted, so far.

At the Berlin festival, “Offside” was in competition alongside Rafi Pitts's “It's Winter”, an elegant depiction of working-class life on the fringes of an Iranian industrial town. But the most enjoyable Iranian contribution, albeit not in competition, was Mr Haghighi's “Men at Work”. In this film, four middle-aged men decide, for no very good reason, to devote considerable energy to dislodging an ancient and phallic rock that stands on a mountain bend. The film's idea and name were supplied by Mr Kiarostami, Iran's most important film-maker since the 1979 revolution, whom Mr Haghighi has known since childhood. But the joy of this rich contemplation of male friendship lies in the execution.

Mr Haghighi is a gifted scriptwriter. As they speak, his characters display a rumbustious wit that is peculiar to Persian as it is spoken in Tehran, but behind the banter flows a current of nostalgia. His direction approaches choreography. Joined and then abandoned by wayfarers driving cars with throbbing music systems, the friends pirouette away from the action to talk of love and the past and then return to apply themselves with renewed vigour to their absurd task. Mr Haghighi's depiction of late middle age is all the more remarkable when you realise that the film-maker is only 37, and that he left Iran as a teenager, returning only six years ago.

Mr Haghighi's experience of life both in Iran and abroad has increased his awareness of the barbed distinction that Iranian filmgoers often make, between fast-paced, technically proficient films that are aimed at commercial success in the domestic market, and more esoteric offerings, filmed on a shoestring, that are ignored at home but do well at foreign festivals.

Fire crackers

Mr Kiarostami's “Taste of Cherry” epitomises the latter. Adored by the glitterati at Cannes, where it won the Palme d'Or in 1997, this story of a man who drives around trying to find someone to help him commit suicide mystified or bored many Iranians who saw it. But it spawned a “school of Kiarostami”—young directors whose films tend to feature, in the words of one sardonic critic, “non-professional actors and improvised dialogue and plots in which nothing happens, very slowly”.

EPA

Bear necessity

Given the scant interest shown in “Men at Work” when it was premiered at this year's Tehran festival, and Mr Haghighi's failure to secure a domestic screen permit for his earlier “Abadan”, you might expect him to concentrate on marketing his talents abroad. But he resists the traditional division. Last year, he teamed up with Asghar Farhadi, known also for making high-brow films, to write a rollicking urban drama, “Chaharshanbe Suri”, that Mr Farhadi went on to direct. The film topped a poll of cinema-goers at January's festival in Tehran, and is now on general release.

The film's name refers to the end of the Persian solar year, which Iranians celebrate, in an echo of their Zoroastrian past, by setting off fire crackers. Into a high-rise apartment steps a domestic help who has been

engaged to spring clean. Amid the ghostly forms of furniture draped in sheets and accompanied by a barrage of explosions from the city below, she witnesses the breakdown of a family under the strain of infidelity and suspicion.

However, even a good script and fine performances by Hamid Farrokhnejad and Hediyeh Tehrani as the film's feuding couple do not fully explain the popularity, especially among affluent Iranians, that this bleak film is enjoying. “Chaharshanbe Suri” has struck a chord because, in the words of a cinema-goer, it “holds a mirror up to the middle class”; it depicts a world where traditional patterns of behaviour and morality have given way to a tarnished modernity, where children are picked up from school by a different help every day; a world where mums pop pills, dads have affairs and the old extended family has broken down. Forget blood relations—this family lives next door to a woman who is the husband's mistress.

“Chaharshanbe Suri”, Mr Farhadi says, is about lies and concealment, “two illnesses” afflicting Iranian society. He attributes a spate of recent films about marital infidelity to the spread of damaged relationships behind closed, middle-class doors. The married couple's reconciliation at the end is inconclusive. Only the maid, who has a foot in traditional structures, seems to stand a chance of being happy.

How come “Chaharshanbe Suri”, with its depiction of infidelity, was granted a screen permit, but not Mr Panahi's “Crimson Gold”—on the grounds, apparently, that it briefly shows an impious party? What explains the authorities' decision to allow the screening of Kamal Tabrizi's “The Lizard”, a mischievous comedy about a thief who dresses as a mullah, but to ban Mr Haghighi's tamer “Abadan”? These are the decisions of the Cinema Directorate at the Ministry of Culture and Islamic Guidance, but they are rarely explained. Iran's censors are more flexible than is often supposed, but they can be imperious, quixotic and, on occasion, pointlessly vindictive.

A film-maker like Mr Panahi is kept on a tighter leash because he trumpets his opposition to much of what the Islamic Republic stands for. He is not, as they say, “one of us”. Nor, for that matter, was Mr Haghighi—though he now seems to have piggybacked his way to acceptance by working with a producer who is. This year, the bureaucrat-heavy jury of the Tehran festival announced the rehabilitation of a previously out of favour director, Ibrahim Hatami Kia, by awarding his mediocre latest offering the prize for best film.

Amid these contradictions, there is a perceptible trend towards films with Islamic themes. The culture minister has spoken warmly of “Very Far, Very Near”, about a materialistic, whisky-drinking doctor who discovers that his son is dying and roars off in his Mercedes to tell him the news. In the end, the doctor himself is saved from dying in a sandstorm by what appears to be a miracle—his epiphany, it is assumed, will make him a better Muslim.

Primed with state cash, producers can lavish resources on such uplifting films. (“Very Far, Very Near” was very expensively made by the Institute for Islamic Propagation.) But there persists, among arch-traditionalists, a lingering suspicion that all cinema, whatever its message, is alien and corrupting. This ambivalence, combined with low investment, explains why the province of Tehran, home to 12m people, boasts fewer than 50 cinemas.

More encouragingly, a new generation of film-makers is learning that technology can help them elude official supervision. Previously beholden to the state for their 35mm cameras and reels, directors and film students are discovering that, by going digital, they can make films for a fraction of the price and without clearance from the authorities. This poses a dilemma. Should the censors legitimise illicitly made digital films by granting them screen permits, or risk driving their creators further underground? What they decide will greatly influence Iranian cinema in the future.

Is there a zeitgeist in these complexities—a current that informs Iran's creative minds at a precarious time in its history? A clue may lie in the remarkably similar conclusions of Mr Panahi's and Mr Haghighi's most recent films. “Offside” ends with Iran's triumph against Bahrain and the girls' blissful submergence, along with their former captors, in a sea of delirious street revellers. In “Men at Work”, the four friends, apparently defeated by the resilient rock, sit in their car listening to the radio commentary of another Iranian victory in a World Cup qualifier, this one against Japan. As the final whistle blows and the commentator congratulates the Iranian team on taking a step towards Germany, the men are astonished to hear the rock tumbling into the valley behind them.

Few Iranians would suggest that these images have much to do with football. They are expressions of a patriotic identity, transcending politics, to which Iranians attach themselves in times of uncertainty and peril—and which Iranian film-makers, ever anxious to analyse the vicissitudes of their society, keep exploring, official interference notwithstanding.

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About sponsorship

Blogging

Outreach and outrage

Mar 9th 2006
From The Economist print edition

JOURNALISM is like making beer. Or so Glenn Reynolds says in his engaging new book. Without formal training and using cheap equipment, almost anyone can do it. The quality may be variable, but the best home-brews are tastier than the stuff you see advertised during the Super Bowl. This is because big brewers, particularly in America, have long aimed to reach the largest market by pushing bland brands that offend no one. The rise of home-brewing, however, has forced them to create "micro-brews" that actually taste of something. In the same way, argues Mr Reynolds, bloggers—individuals who publish their thoughts on the internet—have shaken up the mainstream media (or MSM, in blogger parlance).

Few mainstream journalists would deny that the blogosphere keeps them on their toes. Make a mistake, and a swarm of furious pyjama-clad scribes will pounce. Make a grotesque partisan error while masquerading as "objective", and the ensuing storm may cost you your job, as Dan Rather, a CBS anchor, discovered during the 2004 election campaign after running a story about George Bush shirking National Guard duty based on documents that bloggers quickly exposed as forgeries.

Mr Reynolds spells out some of the bloggers' advantages. First, their numbers. There is only one *New York Times*, but technorati.com tracks nearly 30m blogs. With so many eyes, the blogosphere reacts quickly to breaking news. George Bush's second pick for the Supreme Court, Harriet Miers, was doomed within minutes of her nomination when conservative bloggers started likening her qualifications to those of the horse that the emperor, Caligula, tried to have made a Roman senator.

Many blogs are awful. But it is easy to filter out the dross, because the good ones provide links to each other. Bloggers may be (mostly) amateurs, but they are often smarter than the professionals, or possessed of useful specialist knowledge, argues Mr Reynolds, a law professor at the University of Tennessee, whose own blog, instapundit.com, attracts more readers than many established political magazines. That he blogs only part-time perhaps explains why his posts are so brief and to the point. The result is crisp and readable, as is this book.

Mr Reynolds marches the reader briskly through fields where he sees technology empowering the little guy. Wireless internet allows people to work anywhere. With so many people telecommuting, "latchkey" kids are now more likely to come home to at least one parent. And burglars find it harder to identify empty houses to rob.

Mr Reynolds's techno-optimism is exhilarating, though occasionally Pollyanna-ish. He thinks that the ageing process can probably be cured, for example, and that mankind will dodge extinction by colonising other planets. His greatest strength, however, is in describing what he knows best: blogging. He sees communications technology making repression steadily harder. An ordinary video camera can be confiscated and its tape destroyed. But if a video blogger were transmitting footage wirelessly to hundreds of other people as he films it—as will soon be possible—it would be a rash secret policeman who shoots him.

Mr Reynolds understands that the blogging revolution has ill effects as well as good. The same technology that spreads protests against tyranny can also be used to stoke sectarian riots, as happened recently in Nigeria. And there are some things the little guy cannot easily do. With a few exceptions (Mr Reynolds lauds a do-it-yourself war correspondent in Iraq), bloggers do little original reporting. Posting opinions online is cheap, but news-gathering is not. Mr Reynolds sees this changing as technology costs fall still further and bloggers find niches in local news. But the revolution is unlikely to destroy "old media" entirely. For one thing, with no MSM, what would bloggers deconstruct?

An Army of Davids: How Markets and Technology Empower Ordinary People to Beat Big Media, Big Government, and Other Goliaths.
By Glenn Reynolds.

An Army of Davids: How Markets and Technology Empower Ordinary People to Beat Big Media, Big Government, and Other Goliaths
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Nelson Current; 302 pages; $24.99

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About sponsorship

New fiction

The doughnut wars

Mar 9th 2006
From The Economist print edition

Company
By Max Barry

Doubleday; 352 pages; $22.95

Buy it at
Amazon.com
Amazon.co.uk

WHO has not dreamed of becoming rich by penning a tale—nay, a film-script—about freakish officemates? This reviewer has been tempted many times, having once shared an office (at *The Economist*) with someone who called himself “Dude” and pretended to be from Alabama. Max Barry, an Australian novelist, is a welcome addition to the oddly under-populated field of corporate satire. “Company”, his latest effort, would do Evelyn Waugh proud.

Zephyr Holdings, the firm at the heart of the novel, has its idiosyncrasies. None of the employees has any idea of what it does, despite the bustle of departments such as Business Card Design, Gymnasium Management, Infrastructure Control, Training Sales and, of course, Senior Management. Nor has anyone ever laid eyes on the chief executive, a legendary figure named Daniel Klausman. Everyone is too busy chattering about which departments will be outsourced or consolidated. Besides, there are other pressing matters to attend to, such as who took Roger's doughnut (a sacking offence, as it turns out), and whether Freddy's habit of anonymously sending Eve, a sexy receptionist, $40 worth of flowers each week will pay off.

Into the corporate circus marches Jones, an earnest and fresh-faced graduate. As Roger's assistant, his first assignment is making inquiries about the doughnut incident. But Jones is destined for higher things. After an adventure on the company rooftop, he discovers Project Alpha, a secret undertaking that shows the true purpose of Zephyr Holdings. To divulge this plot twist might give away too much; but rest assured, management types will double over laughing.

Project Alpha drives the novel, leaving the ending a bit flat. But no matter: Mr Barry's real strength is artful prose and dialogue. He is a master of short sentences and the passive tense, both of which do much to convey his characters' self-importance. When Senior Management is displeased, “glances were exchanged” and the offender terminated. After an epic turf war, “departments were lost, claimed, and lost again.” After one of the Training Sales employees, Elizabeth, gets pregnant (courtesy of the ubiquitous Roger), she is summoned to Human Resources, which turns out to be a small, empty room occupied only by a plastic chair and a mirror. A loud voice booms down: “Irregularities have been detected in your work patterns. Your bathroom breaks have sharply increased in frequency and duration.” Somehow, the company knows all.

Company.
By Max Barry.
Doubleday; 352 pages; $22.95

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About sponsorship

Ancient Greece

Mycenae's miracle

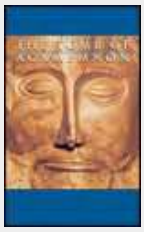
Mar 9th 2006
From The Economist print edition

GOLD loot and a bloody ancient family feud make Mycenae, a fortified hill in the Peloponnese, unique among Greece's Bronze Age sites. The visible remains are impressive too—walls made of giant boulders, a 3,500-year-old sculpture of stone lions in heraldic pose above the main gateway and nine outsize beehive-style tombs where prehistoric rulers were buried.

Yet many visitors come away feeling confused, not least because the museum that was recently built next to the ruins contains none of the dazzling gold artefacts from graves dug up in the 19th and 20th centuries. And what about King Agamemnon, leader of a victorious Greek expedition against Troy, who was hacked to death in his bath by his wife Clytemnestra and her lover as soon as he came home?

As Cathy Gere explains in this succinct account of Bronze Age Mycenae and its curious hold on the imagination of European intellectuals, romantic antiquarianism has no place in the "new" Greek archaeology. Heinrich Schliemann, a wealthy German businessman who turned his attention to Mycenae in 1876 after digging up Troy, was a careless excavator; his insistence on linking his finds with Homer's "Iliad" had much more to do with self-aggrandisement than scholarship.

The Tomb of Agamemnon
By Cathy Gere



Harvard University Press; 208 pages; $19.95. Profile Books; £15.99

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Schliemann quickly identified the more attractive of the two gold death-masks found in one grave as the murdered king's likeness (though it was a journalist rather than Schliemann who produced the famously misleading sound-bite "I have gazed upon the face of Agamemnon"). The aquiline nose, neatly trimmed beard and supercilious expression, Ms Gere says, "were the very image of a fashionable European prince of Schliemann's time".

The glittering burial hoard from Mycenae—gold cups, jewellery, bronze swords with gold-plated hilts and hundreds of ornaments—is still a crowd-puller at the Athens archaeological museum. But the label on Schliemann's most famous find says only that it is "known as the mask of Agamemnon".

Further digging at Mycenae in the 1880s and 1890s by Christos Tsountas, a competent Greek archaeologist, revealed that, just as he had at Troy, Schliemann mis-dated his discovery. The burials took place more than 400 years before the probable date of the Trojan war; Agamemnon's tomb is still unidentified.

Chronology was not an issue for Friedrich Nietzsche, who linked the prehistoric warrior aristocrats of Mycenae with German militarism. In a nastier variation on this theme, Mycenae became part of a racist Nazi fantasy, with Agamemnon re-cast as an Aryan super-hero whose achievement was the extermination of an Asian power, Troy.

Contemporary archaeologists of the Bronze Age prefer scientific analysis of potsherds and bones to grand theories. Indeed, as Greece's politics turned increasingly republican and populist at the end of the 20th century, interest waned in heroes, royal tombs and literary sources such as Homer's epic poems. Surface surveys and rescue excavations, the result of a building boom in the Peloponnese, provide lots of new information about other areas of Bronze Age life, from farming to foreign trade. But it still needs explaining. Ms Gere, an academic who specialises in the history of science, deftly mixes archaeology with cultural interpretation and practical tourism (she includes a guide to the site at Mycenae), in a way that is sure to enlighten the perplexed visitor.

The Tomb of Agamemnon.
By Cathy Gere.
Harvard University Press; 208 pages; $19.95. Profile Books; £15.99

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About sponsorship

New theatre

Cool cat

Mar 9th 2006 | BROOKLYN, NEW YORK
From The Economist print edition

Captivating as Hedda Gabler

Kiss me Cate

CATE BLANCHETT sweeps on to the darkened stage at the Brooklyn Academy of Music before Hedda Gabler's story officially begins—a swirl of long bones and high concept, a wraith with a pale topknot and paler skin. She appears flinty but fragile, a danger to others, surely, and perhaps to herself. Making her American debut, in a production by the Sydney Theatre Company, Ms Blanchett hefts the viewer off to a parallel universe of the psyche.

It is just possible to justify the disparity between Ms Blanchett's exquisite intelligence and Robyn Nevin's mediocre production since Ibsen's pioneering (and crazy) housewife is meant to be too good for the middle-class mundanities into which she married. The actress is never less than mesmerising. At the start, you almost believe her Hedda might just be a high-maintenance brat. Before long, however, she is not only playfully pulling Thea's hair, as she did in their schoolgirl days, she is grabbing the woman's head and grappling her to the ground. Ridiculous? Perhaps. Troubled? Pathologically. Insults pop out of her mouth like toads.

Meanwhile, Ms Nevin and her collaborators offer a troubling incongruity of style. Fiona Crombie's scenery has a nicely suffocating mustiness and persuasive scarcity of furniture. But the set seems lost on the Academy's large stage. Kristian Fredrikson's costumes put Ms Blanchett in ravishing, long turn-of-the-century gowns that make the most of her endless yards of torso, spidery arms and almost inhuman swan neck. But does Justine Clarke, portraying Hedda's competition for the dissipated romantic Lövborg (Aden Young), have to be dressed like Eliza Doolittle in a fuzzy wig? And how dowdy does Hedda's needy maiden aunt (Julie Hamilton) really have to look in order to make sure you empathise with the unhappy bride's marital prison?

As Tesman, Hedda's loser of an academic husband, Anthony Weigh finds a credible energy in the character's nerdiness. Hugo Weaving is dashing as Judge Brack, Hedda's worthy confidant and adversary. One may wince a bit when this judge delivers sardonic anachronisms, such as “oodles of fun”. At least the new adaptation by Andrew Upton, who happens to be Ms Blanchett's husband, counterbalances occasional excess with doggedly helpful psychological detail. Still, the stunning Australian actress—who earned an Oscar last year as Katharine Hepburn in “The Aviator” and her annuity as a noble elf in “The Lord of the Rings”—is every bit as compelling in the translucent flesh as she is up close on the big screen.

“Hedda Gabler” is at the Brooklyn Academy of Music, New York, until March 26th

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About sponsorship

Hans Singer

Mar 9th 2006
From The Economist print edition

Sir Hans Singer, development economist, died on February 26th, aged 95

THE poor are always with us, said Jesus. But they are not always fashionable. Few people have been such indefatigable thinkers about the economics of poverty as Sir Hans Singer, a British development theorist who was born a Jew and brought up in a Catholic area of mainly Protestant Germany. He came from “a minority in a minority in a minority”, he liked to say, with a smile that belied how much he cared about the world's marginalised.

Sir Hans—then plain Mr Singer—was planning to become a doctor when, in the early 1930s, he was won over to economics by a series of lectures by Joseph Schumpeter and Arthur Spiethoff, respectively Austrian and German economists. A year after Adolf Hitler's rise to power in 1933, Schumpeter persuaded John Maynard Keynes to accept the newly married asylum-seeker from Nazi Germany as one of his earliest PhD students at Cambridge.

It would prove a life-changing introduction. Not only did Keynes intervene personally when Sir Hans was interned by the British government early in the second world war, and thus help to win his speedy release, he placed before the young German an intellectual panorama that would inspire Sir Hans's thinking for the next 70 years.

Sir Hans's career began just as the Bretton Woods institutions were finding their feet. How to rebuild Europe's shattered societies, how to harness the economies of the third world—these were questions of crucial importance. As the World Bank and the United Nations agencies got going, Sir Hans moved from new department to new department, energetically offering practical suggestions while also elaborating the theoretical underpinnings of the new economics of development.

Sir Hans's best-known work, developed during his early years at the UN and published in 1949, concerned the long-term deterioration of poor countries' terms of trade. It analysed why, in the long run, the price of primary products tended to decline relative to that of manufactured goods. Sir Hans's conclusion was that the benefits of trade were distributed unequally between the countries that imported agricultural commodities and those that exported them, to the disadvantage of the exporters. The proposition became known as the Prebisch-Singer thesis, though it is now recognised that Sir Hans rather than his Argentine collaborator, Raul Prebisch, did most of the work.

Though the thesis was dismissed by several of the leading American trade theorists of the day, citing the boom in commodity prices that followed the Korean war, the experience of coffee-growing countries, such as Brazil and Kenya, and of cocoa-producers like Côte d'Ivoire suggested that Sir Hans's ideas could not be rejected out of hand. Yet their consequences were generally damaging, giving third-world countries licence to pursue import-substitution schemes behind protective tariffs as their main development strategy. The Prebisch-Singer thesis became all the rage, and was seized on by neo-Marxists, such as Paul Baran and A.G. Frank, who tried—wrongly and unsuccessfully—to claim Sir Hans as one of their own.

Such sweet reason

Instinctively practical rather than ideological, Sir Hans liked to base his theoretical work on observations, not dogma. And in argument, as in chess, he would always show a charming acquiescence. This deceptive meekness may have been reinforced by his short stature and cherubic curls. To Sir Alec Cairncross, a friend and (taller) colleague, he gave “the impression of a troubled, uncertain but reasonable man who [was] used to being contradicted but would not dare himself to contradict.”

In fact, Sir Hans was rarely contradicted. His was the voice of sweet reason. Seeing that the world's poor could not afford market interest rates, he argued for an agency that would offer soft loans and outright grants to the poorest countries. For this, Eugene Black at the World Bank and Senator Joseph McCarthy both regarded Sir Hans as one of the “wild men of the UN”, and a communist to boot, but his ideas took hold. He thus helped to set up the

International Development Association (the World Bank's soft-loan agency), the UN Development Programme and the World Food Programme.

Retirement from the UN at the age of 59 allowed Sir Hans to take up the offer of a fellowship of the Institute of Development Studies at the University of Sussex and further develop his academic work. Writing again under his own name—rather than the umbrella authorship of the UN—he produced another 30 or more books and nearly 300 other publications on subjects ranging from food aid to the role of the economist, with a fluency that led a rival academic to describe him, somewhat unkindly, as “the Edgar Wallace of modern economics”.

Sir Hans did most of his work in a golden age of simplicity in development economics, when progress for poor countries seemed assured. No longer: while many countries in Asia have recently bounded forward, many in Africa have slipped back. Sir Hans, however, never gave up the search for explanations. Indeed, he was in such a hurry at the end of his life that, at the age of 86, he signed up for a speed-reading course.

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Overview

Mar 9th 2006
From The Economist print edition

America's **Treasury-bond market** had a difficult week. Yields on ten-year bonds rose to 4.74% on March 6th, their highest since June 2004. Reasons for the sell-off included the spectre of tighter monetary policy in Europe and Japan, as well as fears that America's central bank would push its federal funds rate higher than expected.

Japan's central bank said it would end its policy of flooding the financial markets with free money. After a two-day meeting, the Bank of Japan indicated on March 9th that such “quantitative easing” would gradually come to an end. Its decision was fuelled by January's inflation figures. Consumer prices, excluding fresh food, rose by 0.5% in the year to January, the fastest in eight years.

Germany's manufacturers are seeing rising demand for their products. Industrial orders rose by 1.4% in January thanks to a big jump in demand for capital goods from outside the euro area. There was a fall in orders from within Germany for industrial goods.

Retail sales in the **euro zone** rose by 0.9% in the year to January, a faster pace of growth than analysts had expected.

Sweden's output growth slowed to 2.9% in the year to the fourth quarter of 2005, from 3.5% in the year to the third, thanks mainly to weak investment. The figures may ease pressure on Sweden's central bank to raise interest rates.

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Output, demand and jobs

Mar 9th 2006
From The Economist print edition

% change on year ago

	GDP latest		GDP qtr*	The Economist poll GDP forecasts 2006	2007	Industrial production latest		Retail sales (volume) latest		Unemployment % rate latest		year ago
Australia	+ 2.7	Q4	+ 1.9	+ 3.1	+ 3.3	+ 1.3	Q3	+ 1.9	Q4	5.2	Feb	5.1
Austria	+ 2.1	Q4	+ 2.8	+ 2.1	+ 1.9	+ 1.5	Dec	+ 3.3	Dec	5.0	Feb	5.1
Belgium	+ 1.5	Q4	+ 2.4	+ 2.1	+ 1.9	+ 2.2	Dec	+ 2.0	Dec	12.9	Dec†	12.8
Britain	+ 1.8	Q4	+ 2.4	+ 2.1	+ 2.5	– 1.3	Jan	+ 1.3	Jan	5.1	Dec††	4.7
Canada	+ 2.9	Q4	+ 2.5	+ 3.1	+ 2.8	+ 2.0	Dec	+ 3.9	Nov	6.6	Jan	7.0
Denmark	+ 3.7	Q4	+ 0.3	+ 2.8	+ 2.3	+ 1.1	Jan	+ 5.0	Jan	5.0	Jan	6.1
France	+ 1.2	Q4	+ 0.9	+ 1.9	+ 2.0	– 0.4	Dec	– 0.3	Jan	9.6	Jan	10.1
Germany	+ 1.0	Q4	nil	+ 1.8	+ 1.2	+ 3.4	Dec	+ 1.7	Jan	11.3	Feb§	11.9
Italy	+ 0.1	Q3	+ 1.1	+ 1.3	+ 1.2	+ 3.5	Dec	+ 1.3	Dec	7.5	Sep	7.9
Japan	+ 4.2	Q4	+ 5.5	+ 2.9	+ 2.4	+ 2.1	Jan	+ 1.2	Dec	4.5	Jan	4.5
Netherlands	+ 1.6	Q4	+ 3.9	+ 2.2	+ 1.9	+ 1.4	Dec	+ 2.9	Dec	6.2	Jan**	6.6
Spain	+ 3.5	Q4	+ 3.9	+ 3.1	+ 2.7	+ 5.3	Jan	– 0.9	Jan	8.4	Jan	10.1
Sweden	+ 2.9	Q4	+ 2.6	+ 3.3	+ 2.8	+ 5.9	Jan	+ 7.7	Jan	6.3	Jan†	5.5
Switzerland	+ 2.7	Q4	+ 2.1	+ 2.2	+ 1.7	+ 2.8	Q3	+ 3.1	Dec	3.8	Feb†	4.1
United States	+ 3.2	Q4	+ 1.6	+ 3.3	+ 2.8	+ 3.1	Jan	+ 6.1	Jan	4.7	Jan	5.2
Euro area	+ 1.7	Q4	+ 1.2	+ 2.0	+ 1.8	+ 2.5	Dec	+ 0.9	Jan	8.3	Jan	8.8
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Finland	+ 2.9	Q4	+ 3.7	na	na	+ 1.1	Jan	+ 6.5	Dec	8.2	Jan	8.9
Greece	+ 3.7	Q4	na	na	na	– 0.9	Dec	+ 2.3	Dec	9.7	Q3	10.1
Iceland	+ 4.0	Q3	na	na	na	na		na		1.5	Dec†	2.7
Ireland	+ 4.8	Q3	+ 1.3	na	na	+ 4.3	Dec	+ 5.0	Dec	4.5	Feb	4.3
Luxembourg	+ 3.1	Q1	na	na	na	+ 8.3	Dec	+ 2.6	Jan	4.8	Jan	4.3
New Zealand	+ 2.0	Q3	+ 0.2	na	na	– 2.7	Q3	+ 3.0	Q4	3.6	Q4	3.6
Norway	+ 3.1	Q3	+ 3.2	na	na	+ 3.8	nil	+ 6.6	Jan	4.2	Jan**	4.5
Portugal	+ 0.2	Q3	– 3.7	na	na	+ 2.4	Jan	+ 3.7	Jan	8.0	Q4†	7.1

*% change on previous quarter at an annual rate. †Not seasonally adjusted. ††Oct-Dec; claimant count rate 2.9% in Jan. §EU harmonised rate 9.1% in Jan. **Nov-Jan. **Oct-Dec.

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Prices and wages

Mar 9th 2006
From The Economist print edition

% change on year ago

	Consumer prices			The Economist poll consumer prices forecast		Producer prices			Wages/earnings		
	latest		year ago	2006	2007	latest		year ago	latest		year ago
Australia	+ 2.8	Q4	+ 2.6	+ 2.9	+ 2.7	+ 4.8	Q4	+ 8.2	+ 5.3	Q4	+ 2.9
Austria	+ 1.2	Jan	+ 2.9	+ 2.0	+ 1.8	+ 1.8	Feb	+ 4.6	+ 2.7	Jan	+ 2.1
Belgium	+ 2.4	Feb	+ 2.6	+ 2.2	+ 1.9	+ 3.5	Jan	+ 5.1	+ 2.3	Oct	+ 2.4
Britain	+ 1.9	Jan*	+ 1.6	+ 1.9	+ 1.9	+ 2.9	Jan	+ 2.6	+ 3.6	Dec†	+ 4.3
Canada	+ 2.8	Jan	+ 2.0	+ 2.1	+ 2.2	+ 2.2	Jan	+ 3.7	– 0.2	Dec	+ 1.7
Denmark	+ 2.1	Jan	+ 1.0	+ 1.9	+ 1.9	+ 4.6	Jan	+ 3.0	+ 2.9	Q4	+ 2.9
France	+ 2.0	Jan	+ 1.6	+ 1.7	+ 1.6	+ 3.7	Jan	+ 2.9	+ 3.3	Q4	+ 3.0
Germany	+ 2.1	Feb	+ 1.8	+ 1.6	+ 2.3	+ 2.9	Jan	+ 3.4	+ 0.8	Dec	+ 1.4
Italy	+ 2.1	Feb	+ 1.9	+ 2.1	+ 1.9	+ 4.7	Jan	+ 4.5	+ 2.3	Dec	+ 3.3
Japan	+ 0.5	Jan	– 0.1	+ 0.3	+ 0.6	+ 2.7	Jan	+ 1.4	– 0.6	Jan	nil
Netherlands	+ 1.1	Feb	+ 1.6	+ 1.5	+ 1.5	+ 6.3	Jan	+ 4.7	+ 1.6	Feb	+ 0.6
Spain	+ 4.2	Jan	+ 3.1	+ 3.3	+ 2.8	+ 6.3	Jan	+ 4.8	+ 1.9	Q3	+ 2.2
Sweden	+ 0.6	Jan	nil	+ 1.4	+ 1.9	+ 6.0	Jan	+ 2.5	+ 3.4	Dec	+ 2.0
Switzerland	+ 1.4	Feb	+ 1.4	+ 1.1	+ 1.2	+ 1.7	Jan	+ 1.3	+ 0.9	2004	+ 1.4
United States	+ 4.0	Jan	+ 3.0	+ 2.9	+ 2.3	+ 5.7	Jan	+ 3.9	+ 3.3	Jan	+ 2.6
Euro area	+ 2.3	Feb	+ 2.1	+ 2.1	+ 2.1	+ 5.3	Jan	+ 3.9	+ 2.2	Q3	+ 1.8
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*										
Finland	+ 0.8	Jan	+ 0.2	na	na	+ 5.5	Jan	+ 1.2	+ 3.5	Q4	+ 4.3
Greece	+ 3.2	Jan	+ 4.0	na	na	+ 9.3	Jan	+ 3.3	na		na
Iceland	+ 4.1	Feb	+ 4.5	na	na	+ 3.9	Feb	+ 8.1	+ 8.3	Jan	+ 6.6
Ireland	+ 3.0	Jan	+ 2.3	na	na	+ 2.7	Jan	– 0.4	+ 3.5	Q3	+ 4.7
Luxembourg	+ 2.9	Jan	+ 2.0	na	na	+ 3.5	Dec	+17.0	+ 0.8	Nov	+ 3.9
New Zealand	+ 3.2	Q4	+ 2.7	na	na	+ 6.5	Q4	+ 3.4	+ 3.1	Q4	+ 2.5
Norway	+ 1.8	Jan	+ 1.1	na	na	+25.4	Jan	+11.7	+ 3.1	Q4	+ 3.9
Portugal	+ 2.6	Jan	+ 2.0	na	na	+ 5.3	Jan	+ 4.2	+ 0.2	Jan	– 1.5

*RPI inflation rate 2.4% in Jan. †Oct-Dec.

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Economic forecasts

Mar 9th 2006
From The Economist print edition

March averages (previous month's, if changed)

	Real GDP, % change Low/high range		Real GDP, % change average		Consumer prices % increase		Current account % of GDP	
	2006	2007	2006	2007	2006	2007	2006	2007
Australia	2.3/3.7	2.7/3.9	3.1	3.3	2.9	2.7	-5.4(-5.3)	-4.0
Austria	1.8/2.4	1.2/2.2	2.1	1.9	2.0 (1.9)	1.8	0.2 (0.1)	0.2
Belgium	1.7/2.5	1.6/2.2	2.1 (2.0)	1.9	2.2	1.9	2.2 (2.0)	2.3
Britain	1.7/2.6	1.9/2.8	2.1	2.5	1.9 (2.0)	1.9	-2.3	-2.3
Canada	2.7/3.4	2.6/3.1	3.1 (3.2)	2.8	2.1 (2.2)	2.2	2.0 (1.8)	1.4
Denmark	2.5/3.3	2.0/3.1	2.8	2.3	1.9	1.9	2.9 (3.0)	2.7
France	1.5/2.2	1.6/2.4	1.9 (2.0)	2.0	1.7	1.6	-1.3(-1.2)	-1.1
Germany	1.5/2.2	0.2/2.1	1.8 (1.7)	1.2	1.6 (1.7)	2.3	3.9 (3.8)	3.9
Italy	1.0/1.5	0.6/1.7	1.3 (1.2)	1.2	2.1	1.9	-1.5(-1.4)	-1.4
Japan	1.9/3.5	1.4/3.8	2.9 (2.5)	2.4	0.3	0.6	3.7 (3.6)	3.5
Netherlands	1.6/3.1	1.4/2.4	2.2 (1.9)	1.9	1.5 (1.6)	1.5	5.2 (5.0)	5.1
Spain	2.8/3.5	2.4/3.1	3.1 (3.0)	2.7	3.3 (3.2)	2.8	-6.9	-7.0
Sweden	3.0/4.1	2.5/3.1	3.3 (3.2)	2.8	1.4 (1.5)	1.9	6.7 (6.8)	6.3
Switzerland	1.7/2.8	0.9/2.5	2.2	1.7	1.1	1.2	13.1(13.4)	12.4
United States	2.8/3.9	2.4/3.5	3.3	2.8	2.9	2.3	-6.8(-6.6)	-6.8
Euro area	1.8/2.4	1.3/2.4	2.0 (1.9)	1.8	2.1 (2.0)	2.1	-0.1	nil

Sources: ABN Amro, Deutsche Bank, Economist Intelligence Unit, Goldman Sachs, HSBC Securities, KBC Bank, J.P. Morgan Chase, Morgan Stanley, Decision Economics, BNP Paribas, Royal Bank of Canada, Citigroup, Scotiabank, UBS

Every month *The Economist* surveys a group of forecasters and calculates the average of their predictions for economic growth, inflation and current-account balances in 15 countries and the euro area. The table also shows the highest and lowest projections for growth. The previous month's figures, where they are different, are shown in brackets. This month we include, for the first time, forecasts for 2007. The panel expects America's GDP growth to slow to 2.8% next year from 3.3% in 2006. It also predicts a mild slowdown in euro-area growth to 1.8% in 2007 from an upwardly revised 2.0% in 2006. Our forecasters have become more optimistic about Japanese prospects in 2006, with the economy now tipped to expand by 2.9% compared with 2.5% last month. They think that Japan's GDP growth will then slow to 2.4% in 2007.

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Money and interest rates

Mar 9th 2006
From The Economist print edition

	Money supply* % change on year ago			Interest rates % a year (Mar 8th 2006)					
				3-mth money market		2-year	10-year gov't bonds		corporate
	narrow	broad		latest	year ago	gov't bonds	latest	year ago	bonds
Australia	+ 6.4	+ 8.1	Jan	5.60	5.75	5.24	5.36	5.58	6.39
Britain	+ 6.6	+11.7	Jan	4.53	4.94	4.37	4.26	4.86	5.13
Canada	+ 9.1	+ 6.9	Jan	3.73	2.45	3.90	4.23	4.41	5.30
Denmark	+29.2	+24.0	Jan	2.76	2.15	3.23	3.63	3.81	5.07
Japan	+ 5.5	+ 1.7	Feb	0.03	0.02	0.46	1.62	1.48	1.81
Sweden	+ 1.7	+10.1	Jan	1.94	1.93	2.74	3.44	3.83	3.38
Switzerland	+ 1.5	+ 3.3	Jan	1.19	0.75	1.64	2.27	2.20	2.41
United States	+ 1.1	+ 8.1	Jan	4.75	2.75	4.72	4.73	4.51	5.62
Euro area†	+10.2	+ 7.6	Jan	2.69	2.13	3.10	3.60	3.72	4.14

*Narrow: M1 except Britain and Sweden M0, broad: M2 or M3 except Britain M4. † Germany for bonds. Benchmarks: US 30-year 4.72%, Japan No. 277 1.61%. Central bank rates: US fed funds 4.50%, ECB refinancing 2.50%, BOJ overnight call 0.001%, BOE repo 4.5%. Sources: Bank of Canada, Commerzbank, Danske Bank, Global Insight, J.P. Morgan Chase, Stockholmsbörsen, UBS, Westpac, Thomson Datastream. Rates cannot be construed as banks' offers.

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The Economist commodity price index

Mar 9th 2006
From The Economist print edition

2000=100

	Feb 28th	Mar 7th*	% change on one month	% change on one year
Dollar index				
All items	155.1	154.7	– 2.8	+12.5
Food	137.4	136.6	– 0.1	+ 4.6
Industrials				
All	178.0	178.2	– 5.4	+21.6
Nfa†	149.9	149.1	– 1.6	+12.7
Metals	193.3	194.0	– 6.9	+25.7
Sterling index				
All items	134.3	135.2	– 2.4	+25.1
Euro index				
All items	120.3	120.4	– 2.1	+26.3
Yen index				
All items	166.7	169.1	– 3.1	+26.8
Gold				
$ per oz	559.75	549.45	– 1.3	+25.2
West Texas Intermediate				
$ per barrel	61.64	61.50	– 2.2	+12.7

* Provisional. † Non-food agriculturals.

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Stockmarkets

Mar 9th 2006
From The Economist print edition

Market indices

	Mar 8th	2006 high	2006 low	% change on one week	% change on record high	% change on Dec 30th 2005 in local currency	% change on Dec 30th 2005 in $ terms
Australia (All Ordinaries)	4,835.7	4,903.9	4,708.8	+ 0.5	- 1.4	+ 2.7	+ 2.7
Austria (ATX)	3,906.6	4,158.6	3,682.4	- 3.5	- 6.1	+ 6.5	+ 7.7
Belgium (Bel 20)	3,852.2	3,929.1	3,573.9	- 0.8	- 2.0	+ 8.5	+ 9.7
Britain (FTSE 100)	5,812.9	5,897.8	5,618.8	- 0.5	-16.1	+ 3.5	+ 4.6
Canada (Toronto Composite)	11,737.1	12,080.5	11,272.3	- 0.5	- 2.8	+ 4.1	+ 5.4
Denmark (OMXCB)	379.6	384.9	362.0	- 0.6	- 1.0	+ 3.2	+ 4.3
France (SBF 250)	3,498.3	3,570.5	3,327.6	- 1.7	-20.3	+ 6.0	+ 7.1
(CAC 40)	4,969.5	5,080.5	4,748.3	- 1.7	-28.2	+ 5.4	+ 6.5
Germany (DAX)*	5,673.4	5,915.2	5,334.3	- 3.3	-29.7	+ 4.9	+ 6.0
Italy (S&P/MIB)	37,358.0	38,322.0	35,652.0	- 1.2	-25.4	+ 4.6	+ 5.7
Japan (Nikkei 225)	15,627.5	16,747.8	15,341.2	- 2.1	-59.8	- 3.0	- 2.9
(Topix)	1,605.6	1,713.5	1,572.1	- 1.8	-44.3	- 2.7	- 2.5
Netherlands (AEX)	451.4	467.5	431.5	- 2.2	-35.7	+ 3.3	+ 4.4
Spain (Madrid SE)	1,256.8	1,288.0	1,156.8	- 2.4	- 2.4	+ 8.7	+ 9.8
Sweden (Affarsvarlden Gen)	309.6	314.2	287.3	- 0.6	-22.7	+ 5.5	+ 5.8
Switzerland (Swiss Market)	7,831.5	8,040.5	7,583.9	- 1.9	- 6.9	+ 3.3	+ 4.0
United States (DJIA)	11,005.7	11,137.2	10,667.4	- 0.4	- 6.1	+ 2.7	+ 2.7
(S&P 500)	1,278.5	1,294.2	1,248.3	- 1.0	-16.3	+ 2.4	+ 2.4
(NASDAQ Comp)	2,267.5	2,331.4	2,205.3	- 2.0	-55.1	+ 2.8	+ 2.8
Europe (FTSEurofirst 300)†	1,333.2	1,363.8	1,277.1	- 1.7	-21.8	+ 4.5	+ 5.6
Euro area (FTSE Euro 100)†	1,142.4	1,173.7	1,078.9	- 1.9	-26.3	+ 4.9	+ 6.0
World (MSCI)‡	1,295.7	1,319.1	1,259.1	- 1.6	-10.6	+ 3.0	+ 3.0
World bond market (Citigroup)††	617.9	638.9	617.8	- 1.0	- 6.7	- 0.4	- 0.4

*Total return index. †In euro terms. ‡Morgan Stanley Capital International index includes individual markets listed above plus eight others, in $ terms. ††Citigroup World Government Bond Index, total return, in $ terms.

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Trade, exchange rates and budgets

Mar 9th 2006
From The Economist print edition

	Trade balance*, $bn latest 12 months		Current-account balance $bn latest 12 mths		The Economist poll % of GDP, forecast 2006	2007	Exchange rate trade-weighted† 2000=100 Mar 8th	year ago	Currency units per $ Mar 8th	year ago	per £	per euro	per ¥100	Budget balance % of GDP 2005‡
Australia	− 14.2	Jan	− 42.1	Q4	− 5.4	− 4.0	117.1	116.1	1.36	1.26	2.36	1.62	1.16	+ 1.0
Austria	− 1.9	Dec	+ 0.5	Dec	+ 0.2	+ 0.2	104.7§	106.2	0.84	0.75	1.46	–	0.71	− 2.0
Belgium	+ 10.9	Dec	+ 8.2	Sep	+ 2.2	+ 2.3	106.2§	108.3	0.84	0.75	1.46	–	0.71	nil
Britain	−119.3	Jan	− 40.6	Q3	− 2.3	− 2.3	97.7	100.0	0.58	0.52	–	0.69	0.49	− 3.1
Canada	+ 55.6	Dec	+ 25.2	Q4	+ 2.0	+ 1.4	125.9	117.9	1.15	1.21	2.00	1.38	0.98	+ 1.3
Denmark	+ 9.6	Dec	+ 8.7	Dec	+ 2.9	+ 2.7	106.1	106.8	6.26	5.57	10.9	7.46	5.31	+ 2.8
France	− 32.0	Dec	− 41.6	Dec	− 1.3	− 1.1	106.9§	109.2	0.84	0.75	1.46	–	0.71	− 3.2
Germany	+200.0	Dec	+112.8	Dec	+ 3.9	+ 3.9	108.3§	110.9	0.84	0.75	1.46	–	0.71	− 3.9
Italy	− 13.1	Dec	− 24.6	Dec	− 1.5	− 1.4	106.5§	108.8	0.84	0.75	1.46	–	0.71	− 4.3
Japan	+ 94.0	Dec	+164.0	Dec	+ 3.7	+ 3.5	81.9	88.6	118	104	205	140	–	− 6.5
Netherlands	+ 40.1	Dec	+ 39.8	Q4	+ 5.2	+ 5.1	107.0§	109.1	0.84	0.75	1.46	–	0.71	− 1.6
Spain	− 96.4	Nov	− 96.6	Dec	− 6.9	− 7.0	104.9§	106.4	0.84	0.75	1.46	–	0.71	+ 0.3
Sweden	+ 19.6	Jan	+ 21.8	Q4	+ 6.7	+ 6.3	94.9	100.8	7.94	6.78	13.8	9.46	6.73	+ 1.2
Switzerland	+ 6.6	Jan	+ 49.3	Q3	+13.1	+12.4	105.9	107.7	1.31	1.16	2.27	1.56	1.11	− 1.6
United States	−782.1	Dec	−780.6	Q3	− 6.8	− 6.8	87.1	80.7	–	–	1.74	1.19	0.85	− 3.7
Euro area	+ 29.1	Dec	− 35.4	Dec	− 0.1	nil	116.1	119.8	0.84	0.75	1.46	–	0.71	− 2.9
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*													
Finland	+ 10.6	Dec	+ 5.6	Dec	na	na	107.8§	109.8	0.84	0.75	1.46	–	0.71	+ 2.1
Greece	− 34.2	Dec	− 17.5	Dec	na	na	104.0§	105.3	0.84	0.75	1.46	–	0.71	− 4.5
Iceland	− 1.6	Jan	− 2.6	Q4	na	na	109.0**	92.7	69.5	59.3	121	82.8	59.0	+ 2.0
Ireland	+ 40.2	Dec	− 3.7	Q3	na	na	111.4§	115.4	0.84	0.75	1.46	–	0.71	− 0.9
Luxembourg	− 4.8	Dec	+ 3.5	Q3	na	na	106.2§	108.3	0.84	0.75	1.46	–	0.71	− 2.3
New Zealand	− 4.9	Jan	− 9.1	Q3	na	na	131.2	136.8	1.54	1.36	2.67	1.84	1.31	+ 5.3
Norway	+ 49.6	Jan	+ 43.7	Q3	na	na	109.3	107.2	6.72	6.14	11.7	8.01	5.70	+ 15.3
Portugal	− 23.3	Nov	− 16.7	Nov	na	na	104.7**	105.1	0.84	0.75	1.46	–	0.71	− 6.0

*Merchandise. Australia, Britain, France, Canada, Japan and United States imports fob, exports fob. All others cif/fob. †Bank of England except §IMF, December average. ‡OECD estimate.
**IMF, October average.

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Exchange-rate forecasts

Mar 9th 2006
From The Economist print edition

Exchange-rate forecasts

Currency units per dollar

	Mar 8th	3-month	12-month
Euro area*	1.19	1.15	1.25
Japan	118	125	117
Australia	1.37	1.41	1.45
Britain†	1.74	1.70	1.81
Canada	1.16	1.16	1.22
Denmark	6.25	6.50	6.00
Sweden	7.92	8.00	7.40
Switzerland	1.31	1.34	1.22
China	8.05	7.43	7.00
Singapore	1.63	1.60	1.57
South Korea	982	960	935
Brazil	2.18	2.10	2.20
Mexico	10.7	10.7	10.8
Poland	3.27	3.22	2.90
Russia	28.1	28.2	27.0
South Africa	6.30	6.30	5.70

Source: JPMorgan Chase *$ per € †$ per £

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Overview

Mar 9th 2006
From The Economist print edition

Rising Treasury yields in the United States prompted selling in **stockmarkets** as far afield as Brazil, India, South Africa, Turkey, Russia and Mexico.

Brazil's central bank cut its key interest rate by 0.75 percentage points to 16.5%, a 17-month low. The real, which has strengthened this year, lost some ground.

Thailand's GDP growth slowed to 4.7% in the year to the fourth quarter, from 5.4% in the year to the third. The central bank raised its benchmark interest rate by a quarter point, to 4.5%.

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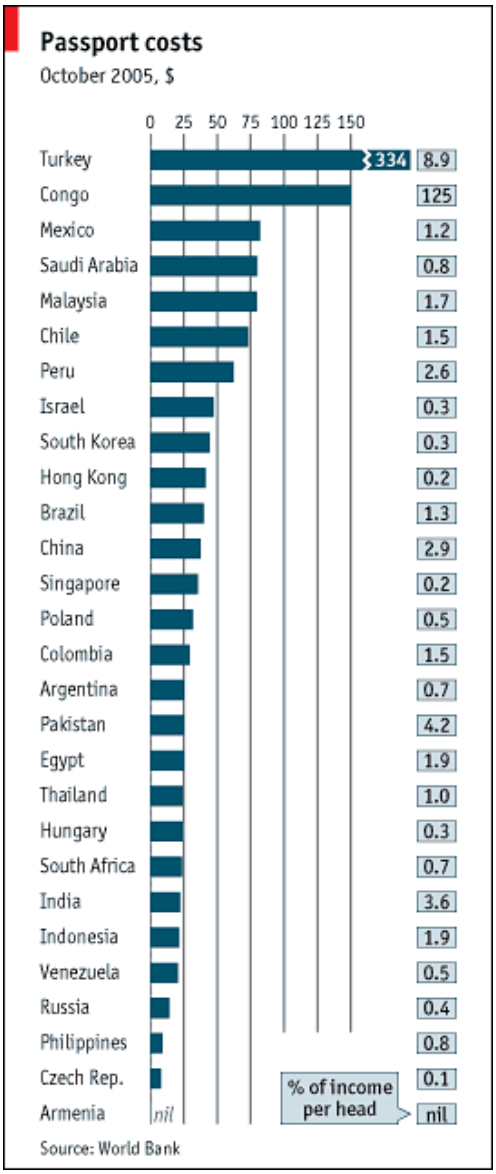
Passport costs

Mar 9th 2006
From The Economist print edition

While immigration policies attract a lot of attention, emigration policies receive little. But it is hard and costly to leave some places, according to a study of 127 countries by David McKenzie at the World Bank. Obtaining a passport costs 10% or more of annual income per head in 14 countries, including Nepal, Laos, Tajikistan and 11 African states. In absolute terms, Turks pay the most: $334 for a five-year passport.



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Economy

Mar 9th 2006
From The Economist print edition

	% change on year ago						Latest 12 months, $bn				Foreign reserves* $bn, latest	
	GDP		Industrial production		Consumer prices		Trade balance		Current account			
China	+ 9.9	Q4	+16.5	Dec	+ 1.9	Jan	+105.1	Jan	+128.5	H1	818.9	Dec
Hong Kong	+ 7.6	Q4	+ 4.1	Q3	+ 2.6	Jan	– 9.7	Jan	+21.0	Q3	125.7	Feb
India	+ 7.6	Q4	+ 5.0	Dec	+ 4.4	Jan	–37.4	Jan	–18.3	Q3	133.4	Jan
Indonesia	+ 4.9	Q4	+ 2.1	Dec	+17.9	Feb	+29.1	Jan	+ 0.7	Q3	33.3	Jan
Malaysia	+ 5.2	Q4	+ 4.2	Dec	+ 3.2	Jan	+26.8	Jan	+18.7	Q3	70.7	Jan
Pakistan	+ 8.4	2005†	+19.3	Sep	+ 8.8	Jan	– 9.4	Jan	– 3.7	Q3	9.8	Jan
Philippines	+ 6.1	Q4	+ 0.1	Dec	+ 7.6	Feb	– 3.7	Dec	+ 2.9	Sep	18.0	Feb
Singapore	+ 8.7	Q4	+ 1.3	Jan	+ 1.8	Jan	+31.1	Jan	+33.2	Q4	120.2	Feb
South Korea	+ 5.2	Q4	+ 6.4	Jan	+ 2.3	Feb	+19.3	Feb	+15.7	Jan	216.9	Jan
Taiwan	+ 6.4	Q4	+ 4.4	Jan	+ 1.0	Feb	+ 7.6	Feb	+16.4	Q4	257.0	Feb
Thailand	+ 4.7	Q4	+ 5.8	Jan	+ 5.6	Feb	– 7.5	Jan	– 2.3	Jan	51.7	Jan
Argentina	+ 9.2	Q3	+ 3.3	Jan	+11.5	Feb	+11.3	Dec	+ 4.4	Q3	27.2	Dec
Brazil	+ 1.4	Q4	+ 3.2	Dec	+ 5.7	Jan	+45.4	Jan	+13.0	Jan	56.3	Jan
Chile	+ 5.2	Q3	+ 7.7	Jan	+ 4.1	Feb	+ 9.7	Feb	– 0.2	Q3	15.9	Jan
Colombia	+ 5.8	Q3	+ 0.9	Dec	+ 4.2	Feb	+ 1.4	Dec	– 1.7	Q3	14.9	Feb
Mexico	+ 2.7	Q4	+ 2.7	Dec	+ 3.9	Jan	– 6.0	Jan	– 5.7	Q4	74.1	Dec
Peru	+ 7.4	Dec	+ 2.7	Dec	+ 2.7	Feb	+ 5.1	Dec	+ 1.0	Q4	13.1	Jan
Venezuela	+10.2	Q4	+13.5	Dec	+12.5	Feb	+31.5	Q4	+25.4	Q4	23.4	Nov
Egypt	+ 5.2	Q1	+ 4.0	2005†	+ 3.4	Jan	–11.3	Q3	+ 1.8	Q3	20.8	Jan
Israel	+ 4.8	Q4	+ 7.0	Dec	+ 2.7	Jan	– 8.4	Jan	+ 2.4	Q3	28.0	Feb
Saudi Arabia	+ 6.5	2005‡	na		+ 1.1	Nov	+84.6	2004	+51.9	2004	26.5	Dec
South Africa	+ 4.5	Q4	+ 6.2	Dec	+ 4.0	Jan	– 4.1	Jan	–10.3	Q3	20.2	Feb
Czech Republic	+ 6.9	Q4	+ 7.1	Dec	+ 2.8	Feb	+ 1.7	Jan	– 2.6	Q4	29.4	Feb
Hungary	+ 4.3	Q4	+11.0	Jan	+ 2.7	Jan	– 3.4	Dec	– 8.7	Q3	19.8	Feb
Poland	+ 4.2	Q4	+ 9.5	Jan	+ 0.7	Jan	– 2.9	Dec	– 4.8	Dec	41.3	Jan
Russia	+ 7.0	Q4	+ 4.4	Jan	+11.1	Feb	+120.1	Dec	+86.6	Q4	181.4	Jan
Turkey	+ 7.0	Q3	+ 4.5	Jan	+ 8.2	Feb	–43.9	Jan	–23.4	Jan	52.9	Jan
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Estonia	+10.5	Q4	+12.1	Jan	+ 4.6	Feb	– 2.4	Dec	– 1.4	Dec	1.9	Dec
Latvia	+11.4	Q3	+ 7.9	Dec	+ 6.1	Feb	– 3.0	Dec	– 2.0	Dec	2.2	Dec
Lithuania	+ 8.2	Q4	na		+ 3.5	Jan	– 3.6	Dec	– 1.8	Dec	3.7	Dec
Slovakia	+ 7.5	Q4	+ 7.7	Jan	+ 4.1	Jan	– 2.4	Dec	– 3.0	Nov	14.9	Dec
Slovenia	+ 3.7	Q3	+ 5.5	Dec	+ 2.2	Feb	– 1.7	Dec	– 0.3	Dec	7.9	Nov

*Excluding gold, except Singapore; IMF definition. †Year ending June. ‡Economist Intelligence Unit estimate.

Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Reuters; WM/Reuters; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; Bank Leumi le-Israel; Standard Bank Group.

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Financial markets

Mar 9th 2006
From The Economist print edition

	Currency units			Interest rates	Stockmarkets	% change on		
	per $		per £	short-term	Mar 8th		Dec 30th 2005	
	Mar 8th	year ago	Mar 8th	% a year		one week	in local currency	in $ terms
China	8.05	8.28	14.0	2.13	1,311.9	-4.3	+ 7.4	+ 7.7
Hong Kong	7.76	7.80	13.5	4.29	15,493.1	-2.1	+ 4.1	+ 4.0
India	44.5	43.6	77.1	6.67	10,508.9	-0.5	+ 11.8	+ 13.2
Indonesia	9,315	9,340	16,163	13.73	1,233.6	-0.5	+ 6.1	+ 12.1
Malaysia	3.72	3.80	6.45	3.46	913.5	-0.9	+ 1.5	+ 3.2
Pakistan	60.0	59.3	104	9.03	10,598.4	-7.6	+ 10.9	+ 10.6
Philippines	51.4	54.4	89.2	7.19	2,099.3	-1.7	+ 0.2	+ 3.3
Singapore	1.63	1.62	2.83	3.44	2,502.6	+0.8	+ 6.6	+ 8.7
South Korea	982	1,001	1,704	4.27	1,314.1	-4.2	- 4.7	- 1.9
Taiwan	32.5	30.8	56.4	1.65	6,459.6	-2.3	- 1.4	- 0.4
Thailand	39.1	38.3	67.9	4.80	723.9	-3.3	+ 1.4	+ 6.3
Argentina	3.08	2.94	5.35	9.25	1,776.1	+2.0	+ 15.1	+ 13.0
Brazil	2.17	2.72	3.77	17.29	37,289.0	-4.8	+ 11.5	+ 19.8
Chile	533	590	924	4.56	9,695.6	-0.1	+ 5.3	+ 1.2
Colombia	2,254	2,336	3,910	6.49	10,562.6	-5.5	+ 11.0	+ 12.7
Mexico	10.7	11.0	18.6	7.46	18,398.8	-3.5	+ 3.3	+ 2.3
Peru	3.34	3.26	5.80	4.12	5,734.9	-7.1	+ 19.4	+ 22.5
Venezuela	2,721§	2,799§	4,722	10.48	29,437.0	+1.1	+ 44.3	+ 37.2
Egypt	5.74	5.80	9.95	8.07	57,628.1	-7.3	+ 4.1	+ 4.1
Israel	4.71	4.30	8.17	5.14	831.3	+0.2	+ 0.4	- 1.9
Saudi Arabia	3.75	3.75	6.51	5.30	17,287.0	-10.2	+ 3.4	+ 3.4
South Africa	6.31	5.80	10.9	7.20	18,540.6	-2.9	+ 2.5	+ 3.0
Czech Republic	24.2	22.0	41.9	2.09	1,506.8	-3.3	+ 2.3	+ 4.2
Hungary	216	181	374	6.22	22,130.6	-5.6	+ 6.5	+ 5.6
Poland	3.27	2.93	5.68	4.10	38,039.7	-2.9	+ 6.9	+ 6.3
Russia	28.1	27.6	48.7	12.00	1,396.5‡	-3.7	+ 21.1	+ 24.1
Turkey	1.35	1.27	2.34	14.54	42,340.4	-10.8	+ 6.4	+ 6.7
EM (MSCI)*	1.00	1.00	1.74	na	749.5	-4.8	+ 6.1	+ 6.1
EMBI+†	1.00	1.00	1.74	na	374.4	-2.2	+ 1.6	+ 1.6

*Emerging Mkts. †J.P. Morgan Chase's Emerging Mkts Bond Index Plus. ‡In $ terms. §Floating exchange rate.

Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Reuters; WM/Reuters; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; Bank Leumi le-Israel; Standard Bank Group.

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